

ABSTRACT

EDUCATIONAL LEADERSHIP

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AN EXAMINATION OF FACTORS ASSOCIATED WITH THE ACHIEVEMENT OF MIDDLE SCHOOL AFRICAN-AMERICAN MALES IN MATHEMATICS

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Dissertation dated May 2018

This study examines factors that impact the achievement of middle school African-American males in mathematics on the Georgia Milestones Math End of Grade (EOG) test. Achievement in the middle school seventh and eighth grade math classroom, including, instructional strategies, peer affiliation, discipline, academic motivation, and school culture. Sixty students, 60 parents, and 8 teachers were survey participants in this quantitative study. The analysis of the independent variable having the greatest impact on academic achievement is school culture, based on teachers' perceptions. The findings of this study determined that there is a statistically significant relationship between peer affiliation, instructional strategies, and discipline.

AN EXAMINATION OF FACTORS ASSOCIATED WITH THE ACHIEVEMENT
OF MIDDLE SCHOOL AFRICAN-AMERICAN MALES
IN MATHEMATICS

A DISSERTATION
SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF EDUCATION

BY
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DEPARTMENT OF EDUCATIONAL LEADERSHIP

ATLANTA, GEORGIA

MAY 2018

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ACKNOWLEDGMENTS

This work would have been impossible without holding on to the fact that *God would never leave or forsake me* (Hebrews 13:5).

I would like to thank my amazing grandparents who were both educators, Sylvester and Nevada Beasley. A tremendous amount of gratitude goes to my parents, Ellene and Len Kelly, for raising me to believe in myself, and that all things are possible. Special thanks go to my aunts and uncles (Kay, Nikki, Cullen, and Steve), and my sister Neva, for always supporting my dreams.

I could not have completed this dissertation without the constant encouragement of my husband, Reginald. His unconditional love and dedication to our family made this degree possible. To my son, Joshua, always remember the value of a good education and know that I did this for us.

I am grateful to the GCPS cohort that came before me, Dr. C. Walker, Dr. T. Turner, and Dr. D. Morrow, for all of their help. Much appreciation is extended to my dissertation committee, Dr. B. Hill, Dr. D. Groves, and Dr. D. Teodorescu, who refused to give up on me. Mrs. B. Cooke's assistance with every aspect of this work is greatly appreciated.

Heartfelt thanks go to my family, church, co-workers, and dear friends who helped, and rallied behind me throughout this process.

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CHAPTER I

INTRODUCTION

The African-American community has drawn negative attention over the years, for various reasons, regarding student achievement among youth, especially middle school males in mathematics. Numerous issues touching many aspects of life, including social, academic, and civic life, characterize the African-American male student population. One academic challenge that faces African-American males concerns them focusing on their studies and their not wanting to be perceived as “acting white.” Discrimination, seen in the predominance of African-American students enrolled in inferior schools, taught by inferior teachers or teachers who lack adequate funds and materials, is a challenge. The National Education Association (NEA) reported that 48% of all African-American students attend schools that are “under-resourced and poorly funded” (Palmer, Davis, & Hilton, 2009, p. 1). Consequently, African-American males are often blamed for their own situations, which are frequently caused by factors outside of their control. Kunjufu (2013) cited violence and gang activity as a major challenge facing young African-American males, even in their short commute to and/or from school. Miller Dyce (2014) revealed out-of-home placement, such as group homes and foster homes, as a significant challenge for young African-American males. This study drew on the experiences of a middle school administrator in a Title I school that serves primarily African-American and Hispanic students.

There are more cases of school drop-out, suspension, expulsion, and poor academic performance among African-American males than is the case among other races (National Center for Education Statistics, 2007). African-American male students are suspended at three times the rate of white students, with African-American students suspended at a rate of 16% and white students suspended at a rate of 5%. In the school year 2011-2012, African-American males were suspended more than any other race of male students (white, Native American, Asian, etc.) at 20%. In the same school year, African-American males represented the largest student subset to be expelled, at 34% (Civil Rights Data Collection, 2014). The American system of education is structured, in theory, to allow the majority of African-American students to have access to education and to continue with education after an incident that may have brought the education of a student to a halt. Despite the many pro-education programs and the successful education system in America, there are still many cases of school drop-outs, suspensions, and expulsion among African-American students, and African-American males drop out and are suspended and expelled at rates higher than other subgroups.

Poor academic performance among African-American males is noticeable in education data sets. Suspension and expulsion are factors of this poor performance, as are home/family environment, societal factors such as drug use and peer pressure, and poverty. In 2013, The Schott 50 State Report stated that only 13% of African-American eighth grade males scored proficient or above on standardized mathematics testing, as opposed to 21% of Latino males and 45% of white males (Black Lives Matter, 2015). African-American males are 2.5 times less likely to be enrolled in gifted and talented

classes and programs and have far fewer opportunities to take Advanced Placement classes. Far too many African-American males attend high schools that do not have the resources to offer Advanced Placement courses, and African-American males frequently are not scheduled into them when they do exist. In Washington, DC, 12.5% of African-American males took Advanced Placement courses in 2011-2012, while 57.8% of white males were enrolled in them.

African-American males, from the earliest ages and in middle school, face other challenges that affect their academic performance. In 2014, the U.S. Census Data American Community Survey (ACS) report showed that 32.1% of African-American families have children that live in poverty. The percentage of families headed by a single, African-American mother living in poverty is 46%. Among other devastating effects, poverty results in poor nutrition, lower parent literacy levels, lower levels of vocabulary development, low expectations for performance and success, and a decreased sense of agency or control over outcomes among families and students (Poverty in Black America, 2018). When African-American males are in a setting where teachers support them, why are some students still not finding student achievement?

Statement of the Problem

It is not known how and to what extent African-American males can increase their math academic achievement in public school systems. Some African-American males' math test scores are more likely to be significantly lower than their white peers (Schwab-Stone, 1995). This phenomenon is not limited to the southeastern region of the United States; it is a national concern. To say that African-American males are at risk is

an understatement. Have public schools taken into consideration what interventions can be put into place to narrow the wide achievement gap? It is incumbent upon public school systems, administrators, and teachers to develop effective strategies to remedy this problem. It would be ideal for school systems to provide adequate, if not superior, training for school administrators at every level to address these issues. Performance evaluations for administrative positions should include metrics that support addressing these issues. Teachers need adequate training on how they can be effective with African-American males in terms of their instructional strategies, discipline, academic motivation, and school culture.

Purpose of the Study

The purpose of this study was to examine relationships associated with the achievement of middle school African-American males in mathematics. These factors are:

- Instructional strategies
- Peer affiliation
- Discipline
- Academic motivation
- School culture

The writer's goal was to research five factors that may or may not contribute significantly to academic achievement and student success among African-American male youth. This study sought to unearth underlying factors that cause the poor performance in mathematics of African-American male students in middle school. This study also

sought to find solutions based on the available literature from various studies and research completed on the underachievement, particularly in mathematics, of African-American male students in middle school.

Significance of the Study

The findings of this study will enhance many aspects of public education focused on increasing education outcomes for African-American males in particular, but for all children as well. In particular, this study recommends new models and new policies for teachers to directly impact the success of the African-American middle school male student in mathematics. This study provides a new examination of how the relationship of the five factors named above can either positively or negatively impact student achievement and give recommendations for addressing this phenomenon. It also offers suggestions for how public school systems, in urban areas in particular, can address the factors associated with the achievement of middle school African-American males in mathematics (Educational Testing Service [ETS], 2012).

On a gross level, public school systems and public school students will benefit from this work. On a finer level, the primary beneficiaries of the work of this study will be administrators who serve in urban public school systems and the African-American male students who attend to middle schools in those systems. The reader will benefit from gaining new insights into the depths of this problem that African-American middle school male students who are unable to achieve academically, due to one or more of the factors above (ETS, 2012). Readers will benefit from suggestions for new approaches to an old and common problem. Readers will also benefit from the challenge of thinking

through not only the solutions offered here, but solutions readers might themselves create sparked by the concepts in this study, with the assumption that those readers are educators—either principals, administrators, teachers, parents, or even students. The researcher hopes that people will be able to take the insights, ideas, and practices described in this paper back to their schools and classrooms to implement change to benefit African-American male students and, at the same time, students in general.

It is hoped that readers who have not read widely or in depth on this topic will gain a full and clear understanding of what this problem is and be inspired and motivated to effect change in their schools and classrooms (ETS, 2012). The ultimate beneficiaries will be society at large. Every positive, proactive, and constructive action educators do for young African-American male students are done for the greater good.

This study will be useful for education program developers, curriculum developers, teachers, institutions of learning, and other interested parties in the education sector. The study findings will be useful as reference material while assessing effective mathematics programs for African-American middle school male students. Proper understanding of the effects of instructional strategies, peer affiliation, discipline, academic motivation, and school culture on student achievement is useful in the development of curriculum and teaching programs that will allow African-American males to find success in mathematics.

The study is a basis for further research in the education sector, especially in reference to closing the achievement gap between African-American male students and students of other races. This study can be used to draw conclusions as to how some

African-American male students can show student achievement when a precise framework is in place.

Research Questions

- RQ1: What is the relationship between the use of instructional strategies and the student achievement of male African-American middle school students in mathematics?
- RQ2: What is the relationship between peer affiliation and the student achievement of male African-American middle school students in mathematics?
- RQ3: What is the relationship between discipline and the student achievement of male African-American middle school students in mathematics?
- RQ4: What is the relationship between academic motivation and the student achievement of male African-American middle school students in mathematics?
- RQ5: What is the relationship between school culture and the student achievement of male African-American middle school students in mathematics?
- RQ6: Which factor—instructional strategies, peer affiliation, discipline, academic motivation, or school culture—has the greatest impact on student achievement?

Independent and Dependent Variables

The study's independent variables are: (a) instructional strategies, (b) peer affiliation (PA), (c) discipline, (e) academic motivation, and (f) School culture. The dependent variable is student achievement (Georgia Milestones Math End of Grade Assessment).

Summary

Evidence of the detrimental effect on the education of African-American male students, of inadequate instructional strategies, peer affiliations, discipline, academic motivation, and school culture abounds in some schools. There is a need to support students, parents, and teachers who want to be successful, but do not know how because they are in an environment that reeks of failure. The researcher sought a correlation between student, parent, and teacher relationships and teacher perceptions through an examination of data. Since the objective of this study was to find solutions to the problem of lack of school success among African-American males, this study also proposes strategies to address the problem.

CHAPTER II

LITERATURE REVIEW

Generally, African-American middle school males have lagged behind other races academically for decades. This phenomenon continues to plague public school systems throughout the United States. The second chapter of this study examines the theoretical literature from the existing data found in a number of research reports, articles, and publications aimed at discovering whether instructional strategies, peer affiliations, discipline, academic motivation, and school culture have any positive or negative effects on the achievements of male African-American middle school students in mathematics.

Instructional Strategies

The term “instructional strategies” may be taken at its basic meaning, to refer to vast capabilities and methods used by a teacher to organize and implement courses of action that are required to enable a student to attain an expected level of achievement and to acquire an expected level of academic understanding and knowledge. Studies have been conducted in this area (Allison, 2012) and have shown that people who hold high levels of understanding of the effectiveness of teaching are able to exert higher levels of effort, as well as manifest a higher level of resilience in their work even when faced with difficult situations (Gore, 2007). The implementation of instructional strategies vary from teacher to teacher, which may be caused by reasons such as an individual teacher’s

motivation about his or her work, level of training, passion towards the teaching profession, individual talent, and even his or her perception of his or her students (Douglas, 2008). The ability of a teacher to utilize his or her teaching capabilities to help students achieve desired academic outcomes is also used to help teachers know their strengths and self-awareness about the strategies they possess that are best fit to improve the achievement of their students. Specifically, in the area of mathematics, students who have a strong relationship with their math teacher show higher academic achievement. For black middle school-aged males, feeling supported and understood is more important to them than a teacher's ability to teach (Davis, 2014).

Teachers who hold a great number of strategies with a high utilization also possess the ability to influence students and can intervene on challenging situations affecting the student. Such teachers have the ability to change the opinion and perception of students towards education and school from unfavorable to favorable. Instructional strategies usually help students to attain the necessary motivation and focus on learning, thus ensuring strong academic performance (Education First, 2017). Instructional strategies may take the philosophical perspective of the teacher's behavior or approach which has influence over the student. A teacher with a high level of effectiveness in the humanistic approach with control of his/her students, is more likely to produce a significant amount of trust and acceptance in their students (Khatib, 2013). This kind of approach empowers students to work harder and to assume responsibility over their actions. Another philosophical approach is where a teacher takes a custodial approach, assuming the role of custodian, guardian, and caretaker. This strategic approach is more

likely to show high levels of moral discipline and is more likely to form distrust among the students. This approach considers a student to be untrustworthy and irresponsible in that he or she has difficulty with issues of obedience and respect, thus demanding punishment, strictness and a firm approach (Education First, 2017).

Instructional strategies in class have a significant impact on the academic achievement of students. The characteristics of various students demand that the teacher be able to employ relevant and varied strategies that respond to individual students' academic needs in relation to other underlying factors that contribute to student performance, including socioeconomic factors, ethnicity, and gender. The teacher's knowledge about the personal characteristics of the students allows the teacher to adjust the teaching methodology to account for the differences that characterize the students in a class, called differentiation of instruction. A teacher must be able to strategically create lesson plans that will achieve the learning objectives of the curriculum for all students in the classroom. Such lesson plans should take into account the students' peer affiliations.

Peer Affiliations

Peer affiliations in a school set up for academic achievement is a very significant factor to consider. Middle school peers significantly influence each other in terms of academic performance and persistence in the middle grades (Pascarella & Terenzini, 2005). The social settings of every place surrounding the male African-American student play a significant role in the kind of mentality that is instilled in each concerned student. It is common knowledge that the African-American community in the United States originates from historical slavery. Such historical knowledge comes with the assumption

that African-American male students are victims of historical slavery; they have poorer qualities compared with their white counterparts, such as being irresponsible and lazy (Douglas, 2007). The way American society treated the African-American community made significant contributions to the self-hatred that developed among the African-American community over the years. The discriminatory attitude that developed towards the African-American male community contributes to the development of self-defeating behaviors in society, schools, and the family. Research shows that black male students who struggled in mathematics and affiliated themselves with other students with the same challenge, never improved their skills and devalued mathematics as a whole (Davis, 2014). Black middle school males who performed well in mathematics were surrounded by peers who performed as high or better. Students also felt the need to help other classmates succeed. Literature revealed a correlation between peer groups and the development of a black male's masculinity (Davis, 2014).

Over the years, African-American men have experienced constant discrimination. This discrimination has continually contributed to the reduced aspiration among them. African-American men often experience denial of services, the stigma of negative behaviors, and poor and indifferent treatment, as well as being singled out in various circumstances because of their skin color, hair texture, and other distinctive characteristics that identify them as people of African descent (Clow, Hanson, & Bernier, 2012). African-American male students are more likely to experience exposure to environments that are substandard in the fostering of education and economic wellbeing. Such environments are more exposed to a sense of insecurity, inequality, homelessness,

inadequate education services, and other limitations to access to basic resources. This is different from other areas that are white dominated where there are better services, including a high quality of education, well-trained teachers, quality social services, and sufficient provisions of basic services which make education access more enjoyable and admirable (U.S. Census Bureau, 2009). African-American male students among other African-American students are likely to develop a negative attitude towards education, to lack the services of highly qualified professional teachers, and develop stereotypical mentality and violence (Fremon & Renfrow, 1997). Thus, peer affiliation is likely to have a noticeable effect on a student. A large number of African-American male students are brought up in disadvantaged communities which negatively affect their academic achievement because of the socialization which takes place in their surroundings. As a result, African-American male students are at a greater risk than their peers to receive poor education due to fewer years in school or as a result of dropping out of school (Hill & Taylor, 2004). When middle school males have peer affiliations that are negative, it is almost guaranteed that a student will have discipline issues.

Discipline

Disciplinary issues are usually the result of other underlying factors including social setting, perceptions, education, socioeconomic status, and peer influence, among others. The most common forms of disciplinary issues concerning African-American male students in American schools include disobedience, defiance, improper dressing, fighting, tardiness and truancy, threatening other students, theft, and use of profanity. Social justice is critical in the area of discipline (Occidental College, 2017). An

understanding of this framework would give African-American males a chance to be treated as other races.

The usual behavior sanctions that are common for male students include in-school detention, out-of-school suspension, in-school suspension, restricted lunch, mandatory Saturday school, warnings, conference with parents, and restricted recess to school activities. Out-of-school suspension can last up to 10 days.

African Americans are the most affected by discipline issues compared with their counterparts from the white community and other races (National Education Association [NEA], 2011). This means that African-American male students are subject to more frequent disciplinary sanctions that keep them away from education than are other races. Due to the high number of African-American students who are subjected to disciplinary sanctions, as compared to other races, more African-American male students get cumulatively more days out of school during each academic year than their counterparts. Student absenteeism due to discipline referrals leads to academic gaps as well. If students are not in school, they are not learning.

The following chart shows the suspension and expulsion rates by race/ethnicity. Black students represent 16% of the student population but are suspended or expelled at a rate of 32-42%. In comparison, white students also represent a similar range of between 31-40% of students suspended or expelled, but they are 51% of the student population (see Figure 1) (U.S. Department of Education, 2014).

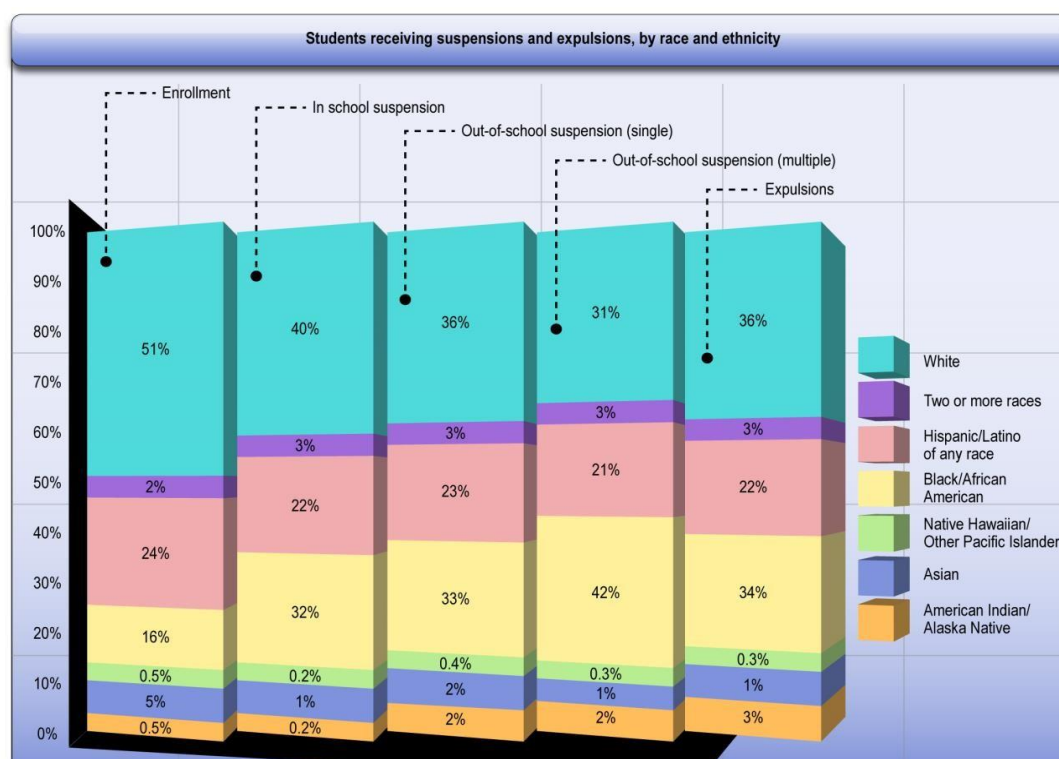


Figure 1. Suspension and expulsion rates by race/ethnicity.

Academic Motivation

The academic motivation of students is essential to their achievement of the expected academic performance. A lack of academic motivation largely affects the African-American community as compared to their white counterparts and students from other races (Kleinbach, 2015). African-American students who live in poverty and struggle academically do so because their basic needs are not being met. Maslow's Theory expounds on how motivation is affected when a student is homeless or goes to bed hungry every night (Martin & Loomis, 2007). Student motivation is usually provided by teachers, parents, and other students which is extrinsic motivation. Intrinsic motivation is characterized by a student's desire to do well without being offered any

type of reward or accolades. Students who have access to relevant academic motivation are more likely to achieve better academically than their counterparts with no academic motivation. Culturally, African-American male students thrive when their teacher is a motivating force (Khatib, 2013). Due to the social, academic, and economic characteristics of several African-American male students, access to academic motivators is limited compared to white students. Stereotypical perceptions of the community dominate many African-American male students which brands them as irresponsible, lazy, and criminal like. African-American male students living and studying in white dominated communities and schools with other races are more academically motivated intrinsically as compared to their peers in African-American-dominated communities and schools (Stuart, 2017). Wells stated these students have an inner drive that allows them to flourish even if they do not have an outside influence to motivate them (Stuart, 2007).

School Culture

School culture is the overall quality and character of school life, including learning practices and teaching, organizational structures, routines, norms and values, and relationships. Even though school cultures are intangible, one can definitely feel it when walking into a school; it feels very calm and refreshing. Principals are instrumental in identifying the culture of the school and building upon those strengths with faculty members and students (Macneil, Prater & Busch, 2009). A positive school culture provides a supportive, safe, inviting, and encouraging environment for students and staff (Confeld, 2016). The culture of a school sets the expectation and standard for behavior and academic excellence. Studies show the correlation between a positive school culture

and high student achievement (Got Core ValuesSM, 2017). Within these schools, a positive school culture is not just a term, it is an expectation.

Summary

This chapter highlighted the literature on the impact of instructional strategies and other variables on middle school African-American male student achievement in mathematics. The literature suggested that the six variables mentioned have a direct effect on the achievement of middle school black males in the area of mathematics.

The literature revealed that for African-American male students in middle school to soar academically in mathematics, it takes an array of research-based methods. A repeated theme is the positive correlation between strong teacher relationships and student achievement. Instructional strategies, peer affiliations, discipline, academic motivation, and school culture are all variables that directly affect student achievement.

The purpose of this study was to discover the effects of instructional strategies, peer affiliation, discipline, academic motivation, and school culture on student achievement in mathematics for African-American male students (Georgia Milestones End of Grade [EOG] Assessment). With the utilization of research-based curriculum and programs that have found success, this will allow other educational institutions to replicate those programs in their settings.

CHAPTER III

THEORETICAL FRAMEWORK

The theoretical framework undergirding this study comes from Critical Race Theory, Attribution Theory, Self-Determination Theory, and Maslow's Hierarchy of Needs, which helps to explain how the independent variables impact African-American male student achievement in middle school. African-American male students thrive with effective instructional strategies that focus on their strengths, not weaknesses (National Black Child Development Institute, 2013). They also need access to rigorous curriculum and relevant economic empowerment, regardless of their socioeconomic status (SES). Research also shows the benefits of out of school learning experiences (field trips) for African-American male students (Payne, 2005). As students age, peers have more of an impact on moral decisions than parents and teachers. It is imperative for African-American male students to surround themselves with other positive African-American males and utilize the concept of collaboration within the classroom. The value of teamwork must be highlighted while minimizing the use of "I." This is critical for student achievement with African-American males. Studies show the disproportionate amounts of reported discipline on African-American males, in comparison to their white counterparts (Hornstra, Mansfield, & Peetsma, 2015). In today's environment, once again, America has become more divided along racial lines. It would be impactful if

accredited college education programs would consider having future educators read *Critical Race Theory*. It is unfortunate, but even for those people who strive for racial harmony, inherited racism is already a part of who we are as people. The researcher examined the relationship between teachers' use of instructional strategies, peer affiliation, discipline, academic motivation, and school culture which have been found to effect student achievement for middle school African-American males.

Definition of Variables

Dependent Variable

Student achievement is defined as student performance on the Georgia Milestones Math End of Grade (EOG) assessment.

Independent Variables

Instructional strategies: For the purpose of this research, instructional strategies are defined as the different methods a teacher uses to instruct his/her class; a combination of learning activities, instructional methods, and materials that actively engage students and appropriately reflect both students' developmental needs and learning goals.

Differentiation is the implementation of various methods to teach the same skill.

Peer affiliation (PA): This term is defined as a group of people who associate with one another on a regular basis in a school setting.

Discipline: The amount of referrals a student has earned while enrolled in public school.

Academic motivation: A person's desire (as reflected in approach, persistence, and level of interest) regarding academic subjects when competence is judged against a standard of performance or excellence.

School culture: The overall quality and character of school life, including learning practices and teaching, organizational structures, routines, norms and values, and relationships.

Assessments Used

- Georgia Milestones Math Assessment (EOG). The researcher will analyze seventh and eighth grade data of selected participants.
- Parent, student, and teacher surveys
- Survey Gizmo to input the data
- Student Portal – document used within the school to review discipline and EOG scores.

Relationship among the Variables

Instructional Strategies

According to Alberta Education (2002), instructional strategies are techniques teachers use to help students become independent, strategic learners. These strategies become learning strategies when students independently select the appropriate ones and use them effectively to accomplish tasks or meet goals. These

strategies can improve student achievement when teachers know how their students learn best.

Peer Affiliation

According to *Webster's Dictionary* (2018), affiliate means to connect or associate oneself; peer affiliation means to connect with others in your group. Students need to feel that sense of belonging which could have an impact on student achievement.

Discipline

Most people think that negative discipline can be a hindrance to student achievement. The researcher sought to show the relationship between student achievement and discipline.

Academic Motivation

McGrew (2008) defined academic motivation as a person's desire (as reflected in approach, persistence, and level of interest) regarding academic subjects when competence is judged against a standard of performance or excellence. Finding out what motivates students is critical to student achievement.

School Culture

School culture deals with how the school is run as a whole, and how it makes students feel when they are in school. A positive school culture can make the achievement difference for some students, if educators knew the impact.

The researcher hypothesized that there is a strong relationship between the independent variables and student achievement for middle school African-American male students. The goal of this study was to ascertain which of the variables directly have an impact on student achievement. Critical Race Theory pursues equity related to race and ethnicity. The Critical Race Theory acknowledges that race does play a role in how people are viewed and treated (Hornstra, Mansfield, & Peetsma, 2015). The Attribution Theory represents the reasons for people's actions, desires, and needs. Maslow's Hierarchy Theory is another motivational theory that states that once a person achieves one level of success on the pyramid, he/she will be able to move on to the next level, as shown in Figures 2 and 3. Figure 3 gives a more detailed look at Maslow's Theory and shows where students fall on the pyramid.

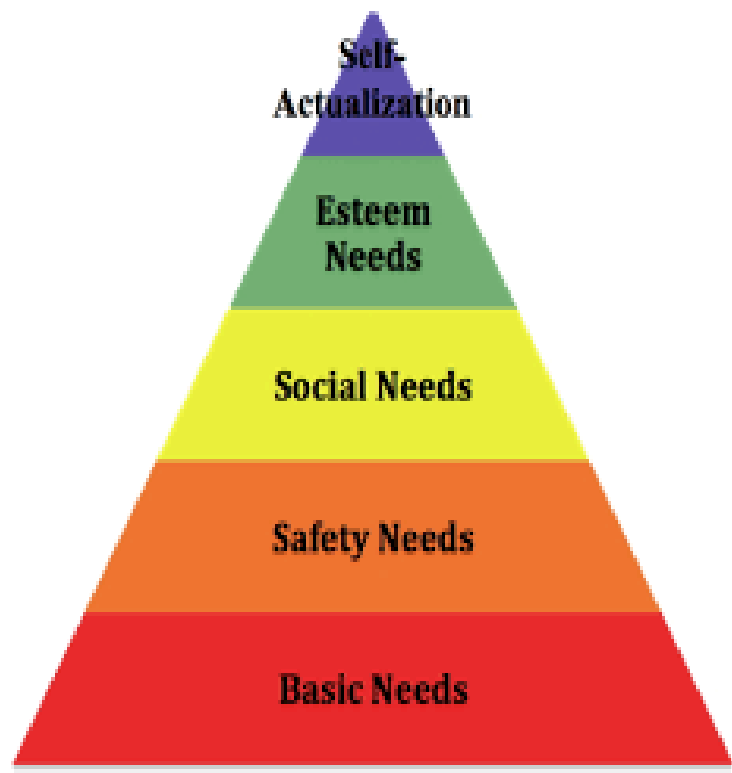


Figure 2. Maslow's Hierarchy of Needs.

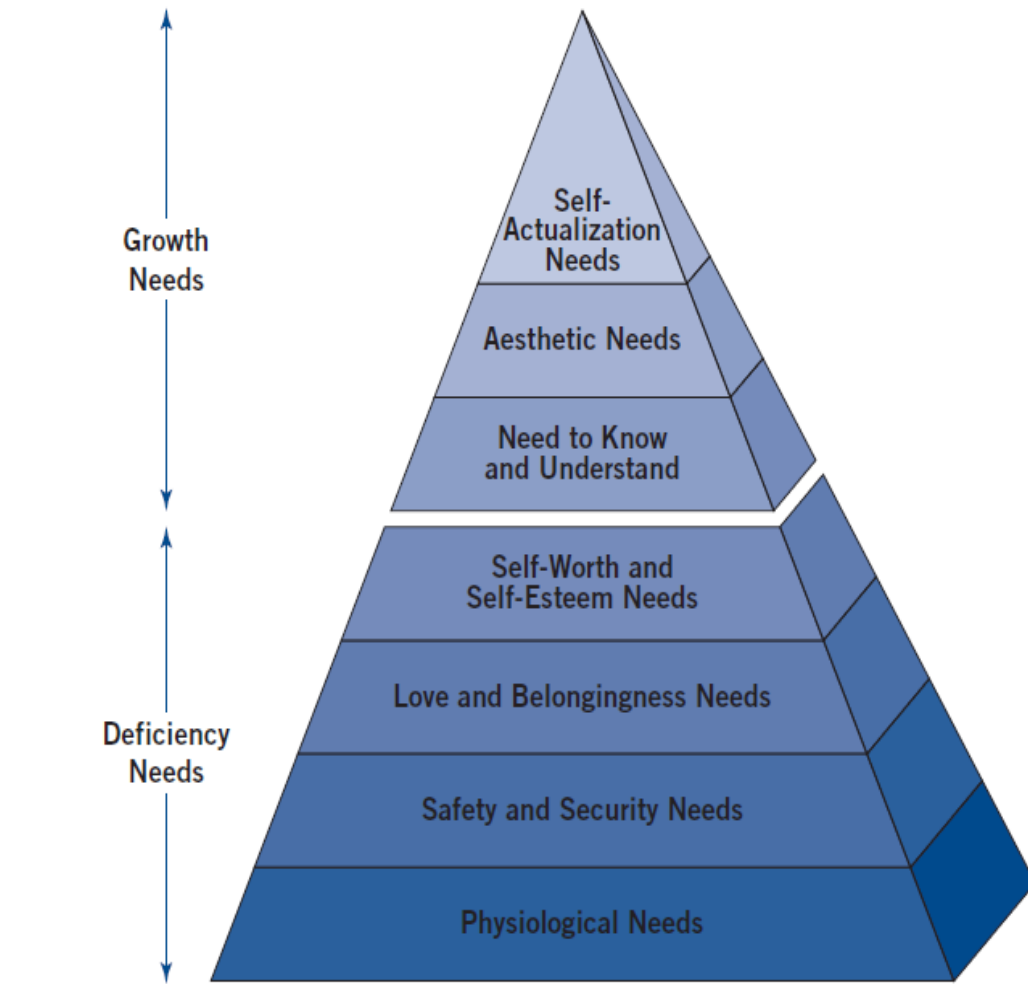


Figure 3. Detailed pyramid of Maslow's Hierarchy of Needs.

Knowing that a large amount of African-American middle school males lives in poverty, it is apparent why so many struggle in the public school setting. When their basic needs have not been met, the first level of Maslow's pyramid, it is difficult for them to advance to the next level. An example would be, if a student is hungry, it is almost

impossible for that student to focus on what the teacher is presenting to the class.

Students must master the first four levels of Maslow's Theory before they can successfully work at learning in a school setting (Martin & Loomis, 2007).

The Self-Determination Theory, authored by psychologists Edward L. Deci and Richard M. Ryan, is another motivational theory that states the learner has to achieve competence, connection, and autonomy in order to become intrinsically motivated (Cherry, 2017). Competence is the ability to learn different skills and gain mastery of tasks. A connection is a sense of belonging or an attachment that a person feels to another, and autonomy is defined as the feeling of being in control of one's behavior and goals (Cherry, 2017). When teachers pay attention to these three components within their students, they can guide the learning process in a more profound and meaningful manner.

Figure 4 shows the independent and dependent variables.

Independent Variables

Dependent Variable

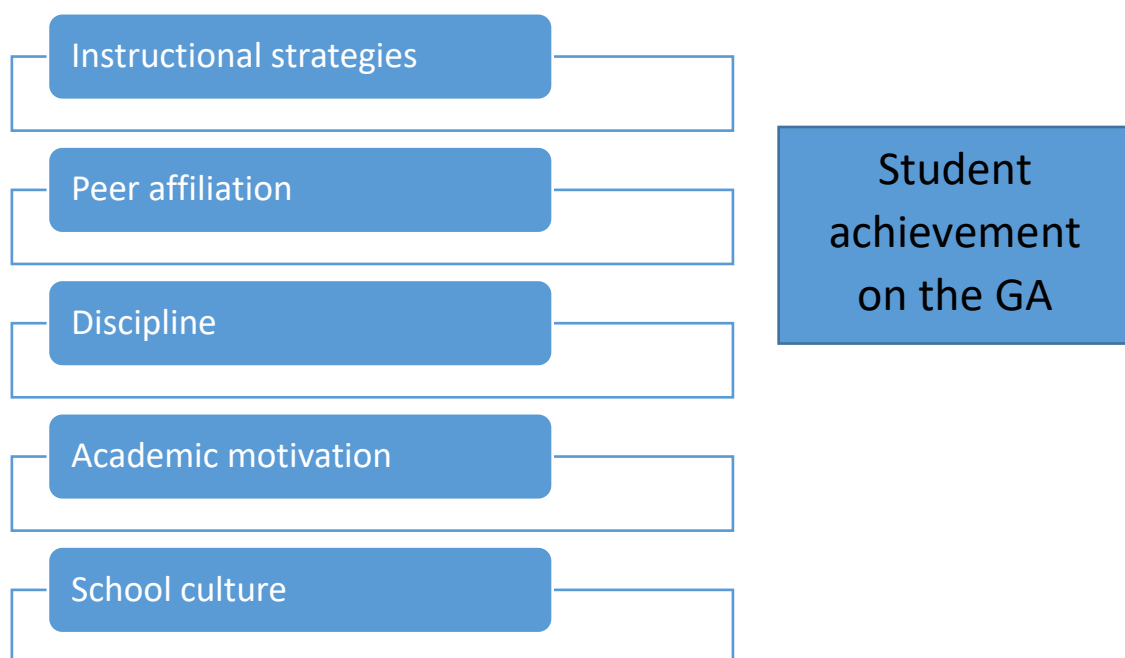


Figure 4. Independent and Dependent Variables.

Limitations of the Study

- The researcher works at the site where the research was conducted. This factor might skew the data due if teachers and students want to ensure their responses are pleasing to the researcher more so than being accurate and transparent to the research.
- The research was conducted within one site. A comparison of two schools with the same ethnic population of students minus the poverty piece would have added value to the research.

Research Questions

The following research questions were surveyed in this study:

- RQ1: What is the relationship between use of instructional strategies and the student achievement of male African-American middle school students in mathematics?
- RQ2: What is the relationship between peer affiliation and the student achievement of male African-American middle school students in mathematics?
- RQ3: What is the relationship between discipline and the student achievement of male African-American middle school students in mathematics?
- RQ4: What is the relationship between academic motivation and the student achievement of male African-American middle school students in mathematics?

RQ5: What is the relationship between school culture and the student achievement of male African-American middle school students in mathematics?

RQ6: Which factor—instructional strategies, peer affiliation, discipline, academic motivation, or school culture—has the greatest impact on student achievement?

Summary

There are several critical factors that have substantial impact on student achievement. This study will allow school systems to identify unique factors that will help educators close the learning gap that is pervasive among middle school African-American males in mathematics. This study will also be pivotal in creating a framework that can be duplicated in all public school settings without costing a large amount of additional educational funds. Even though the research is being conducted at a single site, the data collected will be instrumental in minimizing the achievement gap that plagues school systems throughout the United States with middle school African-American male students.

CHAPTER IV

RESEARCH METHODOLOGY

This chapter gives background information about the school used to investigate the relationship between student achievement and instructional strategies, peer affiliation, discipline, academic motivation, and school culture which have been found to effect student achievement for middle school African-American males in middle school mathematics. Additionally, the survey instruments that were used in this study are included.

Research Design

A quantitative approach was used to explain how the effects of instructional strategies, peer affiliation, discipline, academic motivation, and school culture affect African-American middle school males' student achievement in mathematics. A quantitative approach was used to also parallel the achievement scores of mathematics classrooms and five independent variables. Surveys are in the appendices.

Description of the Setting

The research site is a Title I middle school (grades 6–8) located in an urban city. Opened in 1976, the school is approximately 30 minutes east of the city of Atlanta. It serves over 1,400 students with a cultural makeup of Hispanic (62%), African American (27%), and Other (11%). The population of students receiving free or reduced lunch is

96%. All students receive free breakfast. The community has a large Hispanic and African-American population. As new construction breaks ground across the street from the school, the Asian population is beginning to grow (see Figure 5). The research site is one middle school among 29 others in the largest school district in the state where it is located. The school also serves students with special needs including students with emotional behavioral disorders.

	School Year		
	13-14	14-15	15-16
Enrollment	1894	1984	1461
+American Indian/Alaskan Native*	1%	0%	0%
+Asian*	10%	9%	7%
+Black/African American*	32%	30%	27%
+Hispanic or Latino, <i>any race</i>	49%	53%	62%
+Multiracial, <i>two or more races</i> *	2%	3%	2%
+Native Hawaiian/Pacific Islander*	0%	0%	0%
+White*	6%	5%	2%
Special Education	12%	13%	15%
ESOL	16%	13%	14%
Free/Reduced Lunch	89%	90%	92%
Average Attendance	97%	97%	97%

**Not Hispanic or Latino*

Figure 5. Student data (2013-2014 to 2015-2016).

The research population consisted of 37 seventh graders, and 38 eighth graders. The researcher also surveyed eight mathematics teachers in grades 7 and 8. Parents of the students who were being surveyed were also surveyed.

There are over 80 classroom and fine arts teachers within the building, and a host of paraprofessionals, clerks, and support staff that ensure they are meeting the needs of all students. Over 40% of the teachers and administrators have advanced degrees. Figure 6 shows the various degrees of staff members throughout the building.

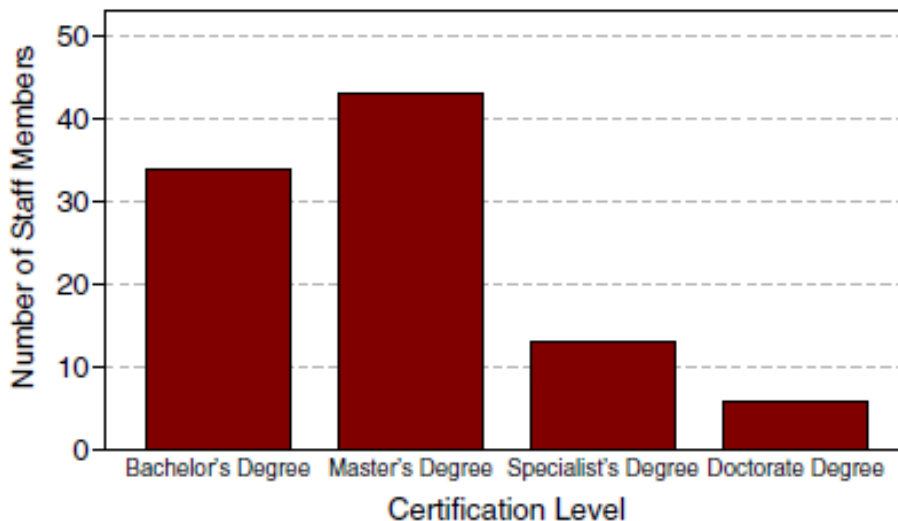


Figure 6. Faculty certification level.

Figure 7 shows the years of experience for faculty members within the research site. This school received a 5 Star rating for school climate on their CCRPI report (Georgia Department of Education, 2017). Less than 20% of the staff members have taught for 26 years or more. The school's standardized test scores are low in comparison to other schools in the same county, thus years of experience do not appear to be a contributing factor for student achievement.

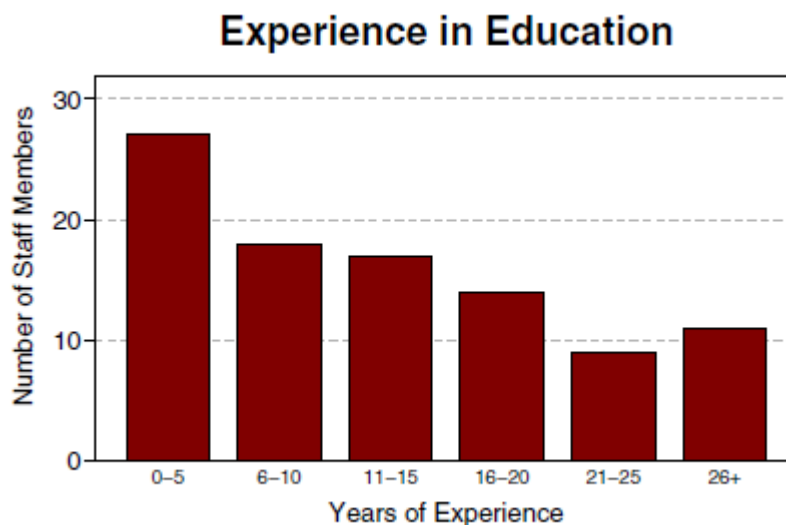


Figure 7. Years of experience in education.

This site houses a tight-knit community full of volunteers and active parents. The administrative team consists of one principal, five assistant principals, and a parent instructional coordinator (PIC). The administrative team is known for their instructional leadership and passion for serving students and supporting teachers.

Students are able to receive free tutoring from a certified teacher five days a week in all subject areas (50 minutes a day). Students are also able to receive additional assistance from a certified teacher every Thursday after school for 2 hours, and every other Saturday for 4 hours at no charge. There are a number of extracurricular activities in which students can partake, and there is a variety of clubs that meet before and after school. During the school day, students can choose two Connections classes a day that range from piano techniques, gym, and French.

Sampling Procedures

The researcher used purposive sampling for this study. The researcher sampled seventh- and eighth-grade African-American middle school males. Defined, purposive sampling is a sampling technique in which the researcher relies on his or her own judgment when choosing members of the population to participate in the study (Research Methodology, 2017). The researcher used this process of sampling as a result of the knowledge of the participants' role at the research site.

Instrumentation

The instrument that was used to measure student achievement was the Georgia Milestones Math Assessment. The survey instruments were designed in collaboration with the Clark Atlanta University Department of Education Leadership Faculty. The researcher also developed three survey instruments that included a series of questions related to instructional strategies, peer affiliations, discipline, academic motivation, and school culture. Tables 1 through 3 identify the questions that the researcher used for the study.

Table 1

Alignment of the Variables and Survey Questions for Parents

Variable	Research Questions	Survey Questions
Dependent Variable: Student Achievement		
Independent Variables		
Instructional Strategies	RQ1: What is the relationship between the use of instructional	3 – 4

Table 1 (continued)

Variable	Research Questions	Survey Questions
Instructional Strategies (continued)	strategies and the student	
	achievement of male African-American middle school students in mathematics?	
Peer Affiliation	RQ2: What is the relationship between peer affiliation and the student	5 – 7
	achievement of male African-American middle school students in mathematics?	
Discipline	RQ3: What is the relationship between discipline and the student achievement	
	of male African-American middle school students in mathematics?	8 – 10
Academic Motivation	RQ4: What is the relationship between academic motivation and the student	11 – 13
	achievement of male African-American middle school students in mathematics?	
School Culture	RQ5: What is the relationship between school culture and the student	
	achievement of male African-American middle school students in mathematics?	17 – 24

Table 2

Alignment of the Variables and Survey Questions for Teachers

Variable	Research Questions	Survey Questions
Dependent Variable: Student Achievement		
Independent Variables		
Instructional Strategies	RQ1: What is the relationship between the use of instructional strategies and the student achievement of male African-American middle school students in mathematics?	2 – 4, 9 – 11
Peer Affiliation	RQ2: What is the relationship between peer affiliation and the student achievement of male African-American middle school students in mathematics?	
Discipline	RQ3: What is the relationship between discipline and the student achievement of male African-American middle school students in mathematics?	13 – 15
Academic Motivation	RQ4: What is the relationship between academic motivation and the student achievement of male African-American middle school students in mathematics?	8, 18 – 20

Table 2 (continued)

Variable	Research Questions	Survey Questions
School Culture	RQ5: What is the relationship between school culture and the student achievement of male African-American middle school students in mathematics?	5 –7, 12 16 – 20

Table 3

Alignment of the Variables and Survey Questions for Students

Variable	Research Questions	Survey Questions
Dependent Variable: Student Achievement		
Independent Variables		
Instructional Strategies	RQ1: What is the relationship between the use of instructional strategies and the student achievement of male African-American middle school students in mathematics?	2 – 6
Peer Affiliation	RQ2: What is the relationship between peer affiliation and the student achievement of male African-American middle school students in mathematics?	7 – 11

Table 3 (continued)

Variable	Research Questions	Survey Questions
Discipline	RQ3: What is the relationship between discipline and the student achievement of male African-American middle school students in mathematics?	11 – 13
Academic Motivation	RQ4: What is the relationship between academic motivation and the student achievement of male African-American middle school students in mathematics?	14 – 16, 18 – 20
School Culture	RQ5: What is the relationship between school culture and the student achievement of male African-American middle school students in mathematics?	17, 21 – 23

Participants/Location of Research

The sample selection for this study was comprised of public middle school math teachers (grades 7 and 8), support teachers, middle school African-American males, and their parents. The classroom teachers involved teach gifted, regular, ESOL (English Speakers of Other Languages) and special education students. The inclusion model was used at this particular school.

The surveys were conducted at this school. All surveys were kept confidential and were stored in a locked cabinet to maintain integrity. Teachers and parents received a consent information sheet from the researcher before completing the survey. Teachers and parents were informed of the data collection process by the researcher and were assured of their anonymity. Students received a permission slip that their parents signed before taking the survey. Sixty students, 60 parents, and 8 teachers completed the survey for the study.

Data Collection Procedures/Protocol

Procedures of the study were as follows:

1. Obtained approval from the Institutional Review Board at Clark Atlanta University.
2. Obtained approval from the principal of the research site.
3. Reviewed documents.
4. Teachers completed a survey instrument that measured their perceptions on African-American middle school males in mathematics regarding their instructional strategies, discipline, and academic motivation. Teachers had a three-day window to complete the survey using Survey Gizmo.
5. Parents completed a survey instrument that included their perceptions on their sons' teachers' attitude and their sons' attitude regarding mathematics. This included instructional strategies, peer affiliations, discipline, academic motivation, and school culture. Parents had a three-day window to complete the survey using Survey Gizmo or by completing it using paper and pencil.

6. Student surveys were completed to ascertain student perceptions on instructional strategies, peer affiliations, discipline, academic motivation, and school culture. Students took the survey in the computer lab and were supervised by a certified teacher (see Table 4).
7. Analyzed the data and identified any significant themes.

Table 4

Survey Distribution

Survey Distribution	Process
Students	After students returned a signed permission form from their parent, they were given 45 minutes to take their survey in the computer lab during Advisement. Students received a piece of candy upon completion of the survey (Survey Gizmo).
Teachers	Teachers took their survey online (using Survey Gizmo) during a one-week window in their classroom. Teachers received “Teacher Bucks” upon completion of the survey.
Parents	Surveys were hand delivered to students for their parents to complete. Parents had two weeks to return their survey (using Survey Gizmo).

Summary

Middle school African-American male students have the largest academic gap in mathematics in comparison to other ethnic groups. This phenomenon has plagued our country for decades and continues to grow. This research is a mixed method study to

conclude the effects of instructional strategies and other select variables on student achievement in an urban school setting. The researcher used survey data taken from students, parents, and teachers to determine if there are any relationships between the achievement gap in mathematics and the variables that some middle school African-American males face.

CHAPTER V

ANALYSIS OF THE DATA

The purpose of this study was to examine the relationships between instructional strategies, peer affiliation, discipline, academic motivation, school culture (independent variables), and the student achievement of male middle school African-American students in mathematics (dependent variable). The researcher used the Georgia Math Milestones End of Grade Test (EOG) to measure student achievement in mathematics. The four achievement levels on the Georgia Math Milestones are *Beginning Learner*, *Developing Learner*, *Proficient Learner*, and *Distinguished Learner*. The following general meanings and ranges for each Achievement Level Descriptor (four levels) are provided from the Georgia Department of Education (2018)

Beginning Learners – Students have not demonstrated proficiency. The score range for this category is 265–474 for seventh grade students and 275–474 for eighth grade students.

Developing Learners – Students demonstrated partial proficiency. The score range for this category is 475–524 for seventh grade students and 475–524 for eighth grade students.

Proficient Learners – Students demonstrated proficiency. The score range for this category is 525–579 for seventh grade students and 525–578 for eighth grade students.

Distinguished Learners – Students demonstrated advanced proficiency. The score range for this category is 580–740 for seventh grade students and 579–755 for eighth grade students.

The target population of this study was middle school African-American male students in grades 7 and 8 and the content focus was mathematics. All students who participated in the survey were enrolled in the same Title I school located in a large, urban school district in Georgia. Research was conducted within the school site. A quantitative approach was used to investigate the relationship between the independent and dependent variables. The independent variables used in this study were instructional strategies, peer affiliation, discipline, academic motivation, and school culture. The dependent variable in this study was student achievement in mathematics, as measured by the Georgia Milestones Math Test/EOG.

Overview of Data Collection and Analysis

For the purpose of this study, the researcher collected data in five ways: (a) student surveys, (b) parent surveys, (c) teacher surveys, (d) Georgia Milestones Math data (EOG), and (e) student discipline history (number of referrals) in middle school. Data collection for student and teacher surveys was completed online in the computer lab at the school site. Parents were given the option of completing their survey either online or using the traditional paper/pencil method. Georgia Milestones Math data (EOG) and student discipline data were collected using school assessment/discipline reports through the student portal. The student, parent, and teacher surveys required participants to provide their perceptions on a 5–point Likert Scale: 1 = Strongly Disagree, 2 = Somewhat

Disagree, 3 = No Opinion, 4 = Somewhat Agree, and 5 = Strongly Agree. Sixty students, 60 parents, and 8 teachers completed the surveys. Student surveys were distributed to the parents who consented through their children. Additional surveys were sent home on two additional occasions. Parents received their surveys in a closed envelope with directions and a survey link if they chose to complete the survey online.

Survey Participants

Twenty-three seventh-grade and 38 eighth-grade African-American male students, their parents, and teachers were surveyed for this research. Figure 8 shows the distribution by grade for all students who participated in the survey.

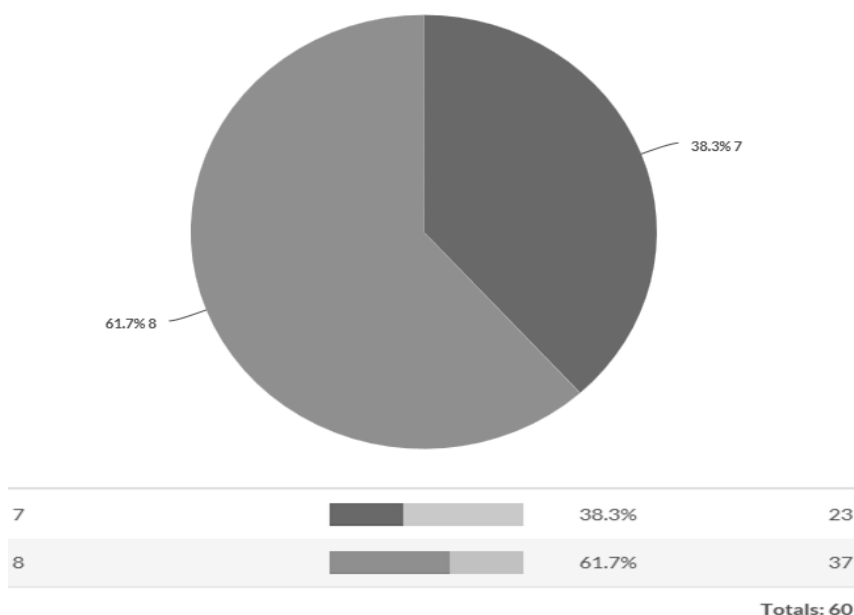


Figure 8. Student survey participants.

Figure 9 shows all parents who participated in the survey by the child's grade. Thirty-eight percent of the parents who participated had a seventh-grade student and 61.7% of the parents who participated in the survey had an eighth-grade student.

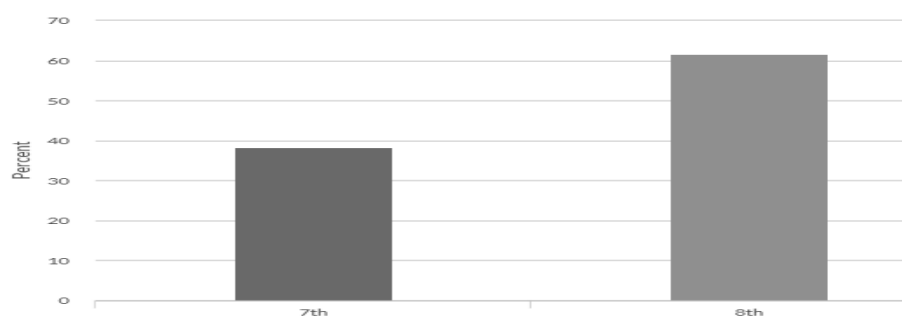


Figure 9. Parents who participated in the survey.

Figure 10 shows the length of time teachers have taught: 12.5% of the teachers taught for one year; 12.5% of the teachers taught for two to five years; 50% of the teachers taught for 11 to 18 years; 12.5% teachers taught for 19 to 25 years; and 12.5% of the teachers surveyed have taught for 26 years or longer.

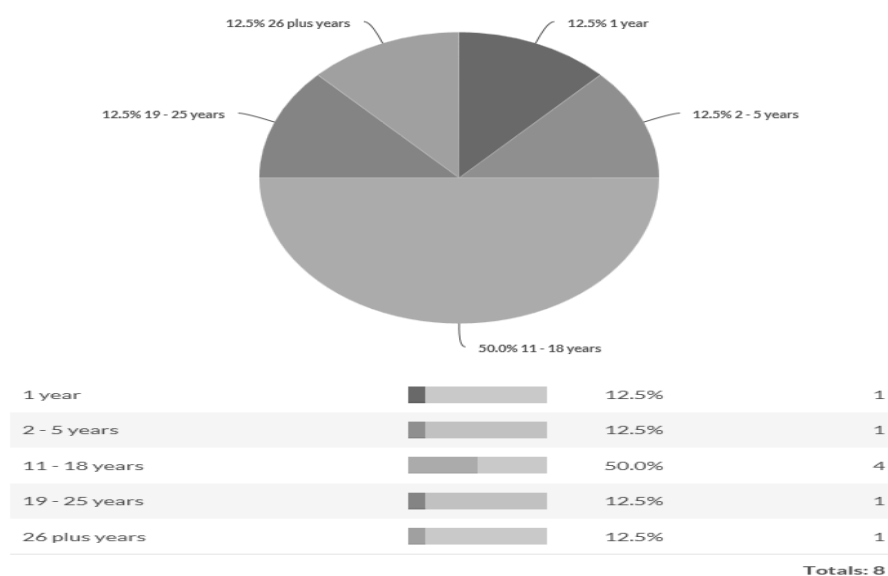


Figure 10. Length of teaching in years.

Figure 11 shows the highest degree held by each teacher. Three teachers had a bachelor's degree, two teachers held a master's degree, and three teachers had a specialist's degree.

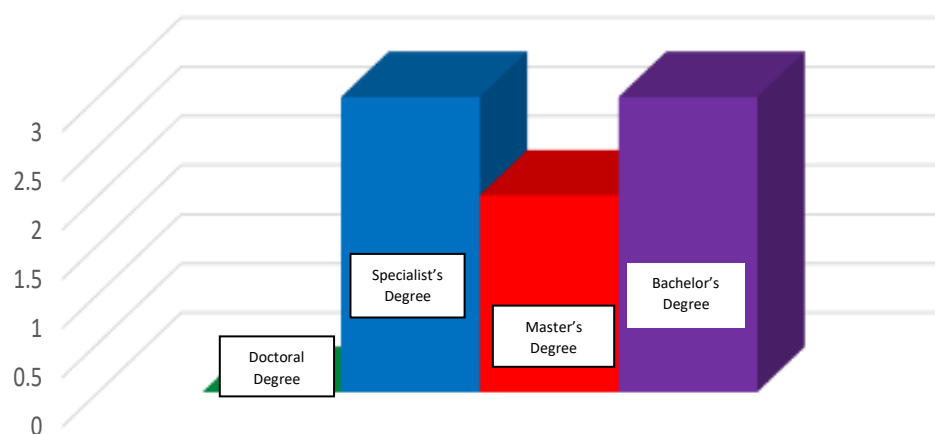


Figure 11. Teachers' degrees.

Data in Response to the Research Questions

RQ1: What is the relationship between use of instructional strategies and the student achievement of male African-American middle school students in mathematics?

To answer this research question, the researcher first examined how EOG Mathematics scores correlated with the following student survey items related to instructional strategies: (a) My math teacher knows how I learn best, (b) My math teacher does fun activities with my class, (c) My math teacher helps me when I don't understand something, (d) My math teacher does small group activities, and (e) My math teacher gives my class a lot of worksheets.

The results summarized in Table 5 indicate that there was a significant negative significant correlation between the Georgia Milestones Mathematics Test (EOG) score and the rating for the instructional strategy, "My math teacher knows how I learn best." The Pearson Correlation Coefficient was $-.322$ ($p < .05$).

Table 5

Correlations between EOG Score and Student Survey Items Related to Instructional Strategies

Student Correlation (Instructional Strategies)		EOG Scores	How I learn best	Fun Activities
EOG Scores	Pearson Correlation	1	-.322*	-0.117
	Sig. (2-tailed)		0.013	0.377
	N	60	59	59
How I learn best	Pearson Correlation	-.322*	1	.636**
	Sig. (2-tailed)	0.013	0	0
	N	59	59	59
Fun Activities	Pearson Correlation	-0.117	.636**	1
	Sig. (2-tailed)	-.377	0	0
	N	59	59	59
Helps me	Pearson Correlation	-0.116	.574**	.608**
	Sig. (2-tailed)	0.385	0	0
	N	58	58	58
Small group activities	Pearson Correlation	-0.061	.260*	.443**
	Sig. (2-tailed)	0.651	0.048	0.001
	N	58	58	58
Worksheets	Pearson Correlation	0.083	-0.185	-0.183
	Sig. (2-tailed)	0.537	0.164	0.169
	N	58	58	58
EOG Scores	Pearson Correlation	-0.116	-0.061	0.083
	Sig. (2-tailed)	0.385	0.651	0.537
	N	58	58	58
How I learn best	Pearson Correlation	.574**	.260*	-0.185
	Sig. (2-tailed)	0	0.048	0.164
	N	58	58	58

Table 5 (continued)

Student Correlation (Instructional Strategies)		Helps me	Small group activities	Worksheets
Fun Activities	Pearson Correlation	.608**	.443	-0.183
	Sig. (2-tailed)	0	0.001	0.169
	N	58	58	58
Helps me	Pearson Correlation	1	.408**	0.19
	Sig. (2-tailed)	0	0.001	0.154
	N	58	58	58
Small group activities	Pearson Correlation	.408**	1	-0.117
	Sig. (2-tailed)	0.001	0	0.381
	N	58	58	58
Worksheets	Pearson Correlation	-0.19	-0.117	1
	Sig. (2-tailed)	0.154	0.381	0
	N	58	58	58

Math EOG scores and in-class fun activities have a correlation of -0.117, and a significance of 0.377. There is no significant relationship. When analyzing the data for Math EOG scores and small group activities have a correlation of -0.061, and a significance of 0.651. There is no significant relationship. Math EOG scores and teacher help have a correlation of -0.116 and a significance of 0.385. There is no significant relationship. In regards to EOG and completing worksheets, a correlation of 0.083 a significance of 0.537 was identified. No significant relationship was found.

Several positive significant correlations between the independent variables (types of instructional strategies) were worth noting (see Table 5). The instructional strategies, “My teacher knows how I learn best” and “My math teacher does fun activities with me”

had a moderate positive correlation ($r = .636, p < .001$). This means that when teachers plan fun activities in class, students are more engaged and feel that their teachers know how they learn best. There was a moderate correlation between the instructional strategies, “My math teacher helps me when I don't understand something” and “My math teacher does fun activities” ($r = .608, p < .001$). This means that teachers who plan fun activities in their classroom, also helps their students when they do not understand something.

In addition, the researcher used the Parent Survey data to determine the correlations between EOG Mathematics scores and the following two items that relate to instructional strategies: (a) “My child’s math teacher is aware of his learning style” and (b) “My son's math teacher is highly qualified and knows the curriculum.”

The Pearson Correlation Coefficient for EOG scores and learning style based on the parent survey was .046. There was a significance of .725. No significant relationship was determined. According to the data analysis of parent surveys, EOG and highly qualified have a correlation of .109 and a significance of .405. There is no significant relationship.

Table 6 shows there was not a significant correlation between the EOG scores and the two items related to instructional strategies. The Pearson Correlation Coefficient for the first item was ($r = .046, p = .725$). The data also shows that there was not a significant correlation between EOG scores and “My child’s math teacher is aware of his learning style ($r = .109, p = .405$).” This means that when a teacher is aware of his/her students’ learning style, it does not have an impact on their EOG score.

Table 6

Correlations between EOG Score and Parent Survey Items Related to Instructional Strategies

Parent Correlation (Instructional Strategies)		EOG Score Data	My child's math teacher is aware of his learning style	My son's math teacher is highly qualified and knows the curriculum
EOG Score Data	Pearson Correlation	1	.046	.109
	Sig. (2-tailed)		.725	.405
	N	60	60	60
My child's math teacher is aware of his learning style	Pearson Correlation	.046	1	.349**
	Sig. (2-tailed)	.725		.006
	N	60	60	60
My son's math teacher is highly qualified and knows the curriculum	Pearson Correlation	.109	.349**	1
	Sig. (2-tailed)	.405	.006	
	N	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

Lastly, the researcher examined responses from the Teacher Survey that related to the use of instructional strategies. The results are presented in the following figures.

Figure 12 shows that 87.5% of the teachers surveyed strongly agreed with the following statement: "If my students do not understand a concept, I try teaching it a different way."

The majority of the teachers surveyed selected strongly agree. This suggests that the teachers are willing to reteach and try different instructional strategies to reach students.

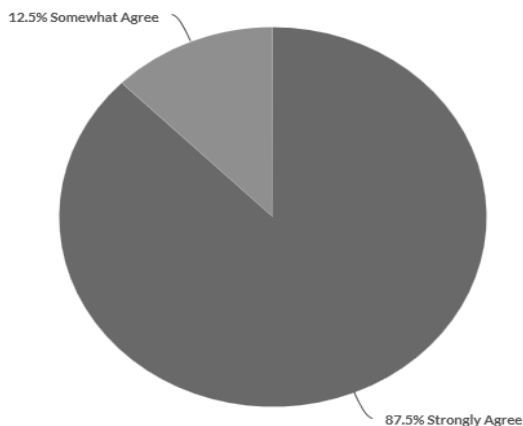


Figure 12. I try teaching it a different way.

Figure 13 shows agreement with the statement from the teachers' survey, "I consider myself a creative teacher." Fifty percent of the teachers stated they found themselves to be creative, which is not a significant correlation.

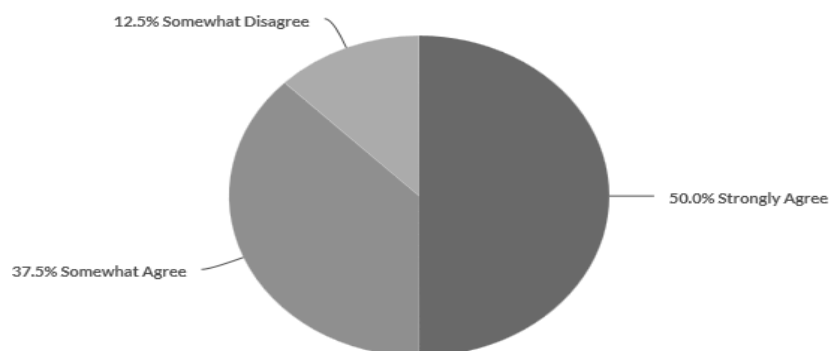


Figure 13. I consider myself a creative teacher.

Figure 14 displays levels of agreement with the following statement from the Teacher Survey: "I pay attention to my students' various learning style." Thirty-eight percent of the teachers stated that they strongly agreed with this statement, and 62% stated they "somewhat agreed."

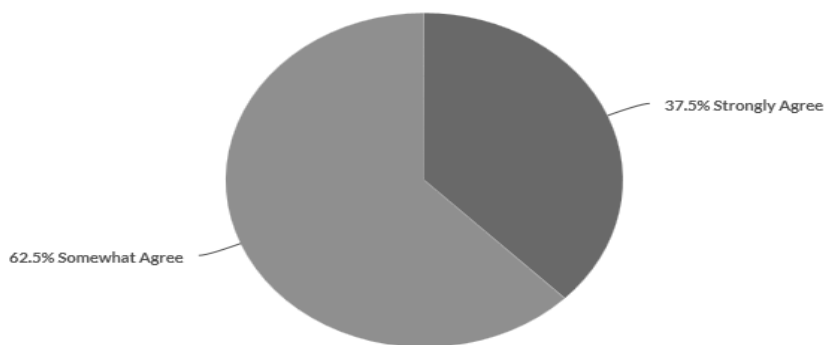


Figure 14. Teachers pay attention to their students' various learning style.

RQ2: What is the relationship between peer affiliation and the student achievement of male African-American middle school students in mathematics?

Results for this research question were triangulated from two sources: student surveys and parent surveys. No relevant data were collected in the Teacher Survey since teachers could not assess peer affiliations. No question related to peer affiliations was included in the Teacher Survey. The researcher first examined the correlation between EOG Mathematics scores the following student survey items that were related to peer affiliation: (a) My friends like school ; (b) My friends know that doing well in school is important; (c) Do your friends make good grades; (d) I study with my friends; and (e) My friends always get in trouble with my math teacher.

The results summarized in the following table reveal that there was no significant correlation between the GA Milestones Math Test (EOG) and peer affiliation items. The Pearson Correlation Coefficients ranged in magnitude from .035 ("I study with my friends") to -.252 (Do your friends make good grades?). However, there was a strong, positive correlation between responses to the question, "Do your friends make good

grades” and responses to “My friends know that doing well in school is important” ($r = .746, p < .001$). A moderate, positive correlation was found between “My friends know that doing well in school is important” and “I study with my friends” ($r = .334, p < .01$) (see Table 7).

Table 7

Correlations between EOG Score and Student Survey Items Related to Peer Affiliation

		EOG Score Data	My friends like school	My friends know that doing well in school is important
EOG Score Data	Pearson Correlation	1	-0.153	-0.084
	Sig. (2-tailed)		0.252	0.533
	N	60	58	58
My friends like school	Pearson Correlation	-0.153	1	.277*
	Sig. (2-tailed)	0.252		0.035
	N	58	58	58
My friends know that doing well in school is important	Pearson Correlation	-0.084	.277*	1
	Sig. (2-tailed)	0.533	0.035	
	N	58	58	58
	Sig. (2-tailed)	0.057	0.004	0
	N	58	58	58
I study with my friends	Pearson Correlation	0.035	.375**	.334*
	Sig. (2-tailed)	0.794	0.004	0.01
	N	58	58	58
My friends always get in trouble with my math teacher	Pearson Correlation	0.081	-0.212	-0.171
	Sig. (2-tailed)	0.548	0.11	0.2
	N	58	58	58

Table 7 (continued)

		Do your friends make good grades	I study with my friends	My friends always get in trouble with my math teacher
EOG Score Data	Pearson Correlation	-0.252	0.035	0.081
	Sig. (2-tailed)	0.057	0.794	0.548
	N	58	58	58
My friends like school	Pearson Correlation	.372**	.375**	-0.212
	Sig. (2-tailed)	0.004	0.004	0.11
	N	58	58	58
My friends know that doing well in school is important	Pearson Correlation	.746**	.334*	-0.171
	Sig. (2-tailed)	0	0.01	0.2
	N	58	58	58
Do your friends make good grades	Pearson Correlation	1	.307*	-0.224
	Sig. (2-tailed)	0	0.019	0.091
	N	58	58	58
I study with my friends	Pearson Correlation	.307*	1	-0.096
	Sig. (2-tailed)	0.019	0	0.476
	N	58	58	58
My friends always get in trouble with my math teacher	Pearson Correlation	-0.224	-0.096	1
	Sig. (2-tailed)	0.091	0.476	0
	N	58	58	58

The researcher also investigated the relationship between EOG Mathematics scores and responses to the following peer affiliation questions in the Parent Survey:

(a) I know my son's friends; (b) My son has positive peer relationships; and (c) My son is a leader in his peer group.

Table 8 shows that there was not a significant correlation between EOG Scores and the peer affiliation items. The Pearson Correlation Coefficient's were .137 ($p = .297$) for "I know my son's friends," -.069 ($p = .603$) for "My son has positive peer relations" and .000 ($p = 1.000$) for "My son is a leader in his peer group" (see Table 8). However, it is important to note that some of the independent variables that define peer affiliation were correlated with each other. For instance, "My son is a leader of his peer group" was moderately correlated with positive peer relationships," $r = .512, p < .001$.

Table 8

Correlations between EOG Score and Parent Survey Items Related to Peer Affiliation

Parents (Peer Affiliation)		EOG Score Data	I know my son's friends	My son has positive peer relationships	My son is a leader in his peer group
EOG Score Data	Pearson Correlation	1	.137	-.069	.000
	Sig. (2-tailed)		.297	.603	1.000
	N	60	60	60	60
I know my son's friends	Pearson Correlation	.137	1	.474**	.373**
	Sig. (2-tailed)	.297		.000	.003
	N	60	60	60	60
My son has positive peer relationships	Pearson Correlation	-.069	.474**	1	.512**
	Sig. (2-tailed)	.603	.000		.000
	N	60	60	60	60
My son is a leader in his peer group	Pearson Correlation	.000	.373**	.512**	1
	Sig. (2-tailed)	1.000	.003	.000	
	N	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

RQ3: What is the relationship between discipline and the student achievement of male African-American middle school students in mathematics?

To answer this research question, the researcher analyzed data from three sources: student surveys, parent surveys, and teacher surveys. Two items measured discipline in the Student Survey: “I have a discipline referral on my school record,” and “If you do have a discipline referral how many do you have?”

Table 9 summarizes the results from the Student Survey related to the relationship between EOG scores and discipline issues. The table indicates that there was not a significant correlation between the EOG score and having a discipline referral ($r = -.202$, $p = .132$) or between the EOG score and the number of referrals ($r = .105$, $p = .435$). However, there was a strong, negative correlation between the two independent variables: number of referrals and the question, “I have a discipline referral on my school record” ($r = -.812$, $p < .001$).

Table 9

Correlations between EOG Score and Student Survey Items Related to Discipline

Discipline		EOG Score Data	I have a discipline referral on my school record	If you do have a discipline referral, how many do you have
EOG Score Data	Pearson Correlation	1	-0.202	0.105
	Sig. (2-tailed)	0	0.132	0.435
	N	60	57	58
I have a discipline referral on my school record	Pearson Correlation	-0.202	1	-.812**
	Sig. (2-tailed)	0.132	0	0
	N	57	57	57

Table 9 (continued)

Discipline		EOG Score Data	I have a discipline referral on my school record	If you do have a discipline referral, how many do you have
If you do have a discipline referral how many do you have	Pearson Correlation Sig. (2-tailed) N	0.105 0.435 58	-.812** 0 57	1 0 58

In addition to responses to the Student Survey, the researcher also examined results from the Parent Survey to answer this research question. The discipline-related items in the Parent Survey were as follows: (a) Referrals; (b) My son has discipline issues in math class, (c) My son has discipline issues in all of his classes; and (d) My son only has discipline issues when he does not like his teacher.

Results showing correlation between EOG scores and discipline-related items are presented in Table 10. As the table demonstrates, there was a negative, weak correlation between EOG scores and number of referrals, $r = -.270$, $p < .05$ indicating that a higher number of referrals is correlated to a lower EOG score. There was no significant relationship between the EOG score and “my son has discipline issues in math class” ($r = -.024$, $p = .858$), “my son has discipline issues in all of his math classes” ($r = .067$, $p = .610$), and “my son has discipline issues when he does not like his teacher” ($r = 0.53$, $p = .688$). However, there was a strong significant correlation relationship between “My son has discipline issues in math class” and “My son has discipline in all of his classes” ($r = .761$, $p < .001$).

Table 10

Correlations between EOG Score and Parent Survey Items Related to Discipline

Parent Correlation (Discipline)		EOG Score Data	Referrals	My son has discipline issues in math class	My son has discipline issues in all of his classes	My son only has discipline issues when he does not like his teacher
EOG Score Data	Pearson Correlation	1	-.270*	-.024	.067	.053
	Sig. (2-tailed)	0	.037	.858	.610	.688
	N	60	60	60	60	60
Referrals	Pearson Correlation	-.270*	1	.332**	.281*	.069
	Sig. (2-tailed)	.037	0	.010	.030	.602
	N	60	60	60	60	60
My son has discipline issues in math class	Pearson Correlation	-.024	.332**	1	.761**	.378**
	Sig. (2-tailed)	.858	.010	0	.000	.003
	N	60	60	60	60	60
My son has discipline issues in all of his classes	Pearson Correlation	.067	.281*	.761**	1	.422**
	Sig. (2-tailed)	.610	.030	.000	0	.001
	N	60	60	60	60	60
My son only has discipline issues when he does not like his teacher	Pearson Correlation	.053	.069	.378**	.422**	1
	Sig. (2-tailed)	.688	.602	.003	.001	0
	N	60	60	60	60	60

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Lastly, the items on the Teacher Survey had participants indicate whether discipline had impact of the EOG scores of their students. The Figure 15 shows that 87.5% of the teachers who were surveyed strongly agree that they have “excellent classroom management.”

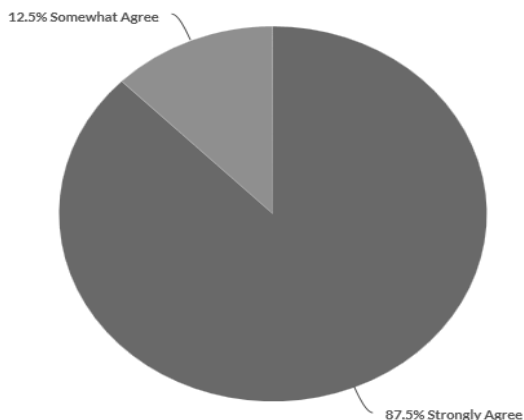


Figure 15. Percentage of teachers who agree that they have excellent classrooms. management.

According to Figure 16, 50% of teachers “somewhat agree” that “Discipline issues occur in my class when students don’t understand the concept I am teaching.” This means that students who understand mathematics concepts do not cause discipline issues.

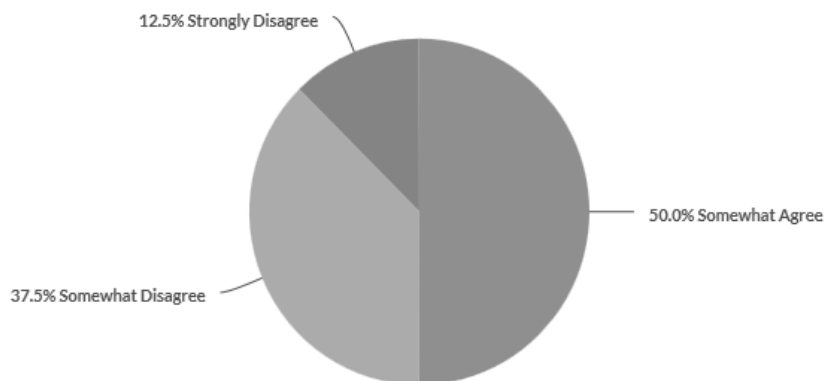


Figure 16. Discipline issues of students.

RQ4: What is the relationship between academic motivation and the student achievement of male African-American middle school students in mathematics?

Data for this research question were collected from student, parent, and teacher surveys. In the student survey, academic motivation was measured using the following items: (a) Are you smart; (b) Do you like math; (c) What grade do you normally earn in math; (d) I like my math teacher this year; (e) When I like my math teacher, I don't get into trouble; (f) I do well in school because I want to go to college; and (g) I don't care how I do in school.

Table 11 indicates that EOGs did not have a significant correlation with any of the independent variables that measure academic motivation. However, there were several low and moderate significant relationships between the independent variables. For instance, there was a moderate, significant correlation between the statements "I like my math teacher" and "I like math" ($r = .471, p < .001$).

The researcher also examined responses to four items in the Parent Survey that were related to academic motivation: (a) My son is motivated to work hard in his math class; (b) My son performs better academically with a math teacher he likes; (c) My son understands the importance of doing well in school; and (d) My son enjoys going to school.

Table 11

*Correlations between EOG Score and Student Survey Items Related to Academic**Motivation*

Student Correlation (Academic Motivation)		EOG Score Data	Are you smart	Do you like math	What grade do you normally earn in math
EOG Score Data	Pearson Correlation	1	-0.19	-0.098	-0.091
	Sig. (2-tailed)	0	0.161	0.464	0.496
	N	60	56	58	58
Are you smart	Pearson Correlation	-0.19	1	0.191	.327*
	Sig. (2-tailed)	0.161	0	0.158	0.014
	N	56	56	56	56
Do you like math?	Pearson Correlation	-0.098	0.191	1	.261*
	Sig. (2-tailed)	0.464	0.158		0.047
	N	58	56	58	58
What grade do you normally earn in math?	Pearson Correlation	-0.091	.327*	.261*	1
	Sig. (2-tailed)	0.496	0.014	0.047	0
	N	58	56	58	58
I like my math teacher this year	Pearson Correlation	-0.135	0.132	.471**	0.233
	Sig. (2-tailed)	0.312	0.331	0	0.078
	N	58	56	58	58
When I like my math teacher I don't get into trouble	Pearson Correlation	0.105	0.156	-0.136	-0.054
	Sig. (2-tailed)	0.436	0.257	0.314	0.692
	N	57	55	57	57
I do well in school because I want to go to college	Pearson Correlation	-0.15	.351**	.301*	0.226
	Sig. (2-tailed)	0.265	0.009	0.023	0.091
	N	57	55	57	57
I don't care how I do in school	Pearson Correlation	0.096	-.399**	-0.124	-0.232
	Sig. (2-tailed)	0.476	0.003	0.357	0.083
	N	57	55	57	57

Table 11 (continued)

Student Correlation (Academic Motivation)		I like my math teacher this year	When I like my math teacher, I do not get into trouble	I do well in school because I want to go to college	I don't care how how I do in school
EOG Score Data	Pearson Correlation	-0.135	0.105	-0.15	0.096
	Sig. (2-tailed)	0.312	0.436	0.265	0.476
	N	58	57	57	57
Are you smart	Pearson Correlation	0.132	0.156	.351**	-.399**
	Sig. (2-tailed)	0.331	0.257	0.009	0.003
	N	56	55	55	55
Do you like math?	Pearson Correlation	.471**	-0.136	.301*	-0.124
	Sig. (2-tailed)	0	0.314	0.023	0.357
	N	58	57	57	57
What grade do you normally earn in math?	Pearson Correlation	0.233	-0.054	0.226	-0.232
	Sig. (2-tailed)	0.078	0.692	0.091	0.083
	N	58	57	57	57
I like my math teacher this year	Pearson Correlation	1	0.008	.369**	-0.061
	Sig. (2-tailed)	0	0.956	0.005	0.654
	N	58	57	57	57
When I like my math teacher I don't get into trouble	Pearson Correlation	0.008	1	-0.207	0.166
	Sig. (2-tailed)	0.956	0	0.126	0.222
	N	57	57	56	56
I do well in school because I want to go to college	Pearson Correlation	.369**	-0.207	1	-.296*
	Sig. (2-tailed)	0.005	0.126	0	0.027
	N	57	56	57	56
I don't care how I do in school	Pearson Correlation	-0.061	0.166	-.296*	1
	Sig. (2-tailed)	0.654	0.222	0.027	0
	N	57	56	56	57

The following table summarizes the correlations between EOG scores and the four items. As the table demonstrates, none of the motivation items were significantly correlated with EOG scores. As with the previous research questions, there were several

significant moderate correlations between the independent variables (see Table 12). For instance, there was a moderate, positive correlation between the statements, “My son enjoys going to school” and “My son understands the importance of doing well in school” ($r = .554, p < .001$).

Table 12

Correlations between EOG Score and Parent Survey Items Related to Academic

Motivation

Parent Correlation (Academic Motivation)		EOG Score Data	My son is motivated to work hard in his math class	My son performs better academically with a math teacher he likes	My son understands the importance of doing well in school	My son Enjoys going to School
EOG Score Data	Pearson Correlation	1	.125	-.138	-.145	.160
	Sig. (2-tailed)	0	.343	.295	.269	.223
	N	60	60	60	60	60
My son is motivated to work hard in his math class	Pearson Correlation	.125	1	.117	.501**	.512**
	Sig. (2-tailed)	.343		.373	.000	.000
	N	60	60	60	60	60
My son performs better academically with a math teacher he likes	Pearson Correlation	-.138	.117	1	-.045	-.203
	Sig. (2-tailed)	.295	.373	0	.735	.119
	N	60	60	60	60	60

Table 12 (continued)

			My son is motivated to work hard in his math class	My son performs better academically with a math teacher he likes	My son understands the importance of doing well in school	My son Enjoys going to School
Parent Correlation (Academic Motivation)		EOG Score Data				
My son understands the importance of doing well in school	Pearson Correlation	-.145	.501**	-.045	1	.554**
	Sig. (2-tailed)	.269	.000	.735	0	.000
	N	60	60	60	60	60
My son enjoys going to school	Pearson Correlation	.160	.512**	-.203	.554**	1
	Sig. (2-tailed)	.223	.000	.119	.000	0
	N	60	60	60	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

Lastly, the results from the Teachers Survey indicate 50% of the respondents “somewhat agree” that their students are intrinsically motivated. This means that about half of the students taught by these teachers are not intrinsically motivated and might need extrinsic motivators to improve their learning (see Figure 17).

RQ5: What is the relationship between school culture and the student achievement of male African-American middle school students in mathematics?

The student survey measured school culture via three items: (a) I like my school; (b) I am treated fairly at my school; and (c) My Principal and AP care about me.

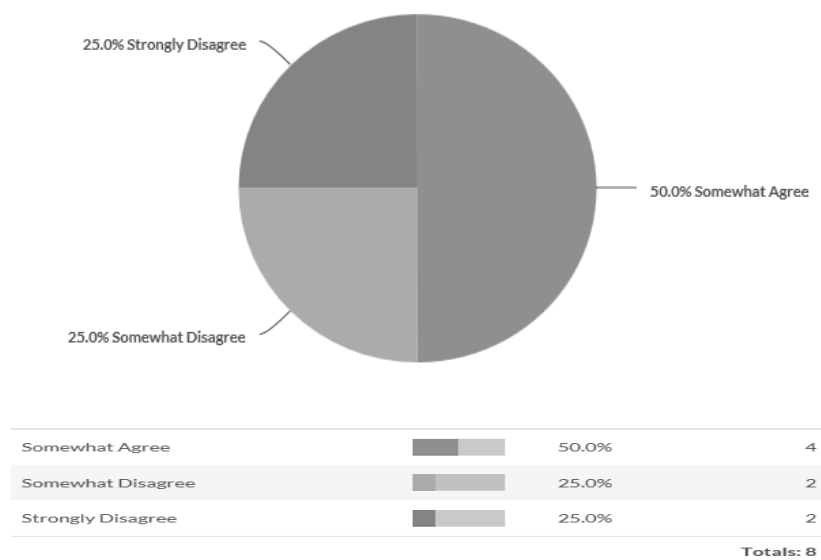


Figure 17. Percentage of teachers who agreed that their students are intrinsically motivated.

As Table 13 indicates, EOG scores were not significantly correlated with any of the three items. However, there were a few significant correlations between the independent variables. For instance, there was a moderate significant relationship between the statements, “I like my school” and “I am treated fairly at my school” ($r = .553, p < .001$).

Table 13

Correlations between EOG Score and Student Survey Items Related to School Culture

School Culture (Students)		EOG Score Data	I like my school	I am treated fairly at my school	My principal and AP care about me
EOG Score Data	Pearson Correlation	1	-0.145	-0.082	-0.233
	Sig. (2-tailed)	0	0.279	0.54	0.079
	N	60	58	58	58

Table 13 (continued)

School Culture (Students)		EOG Score Data	I like my school	I am treated fairly at my school	My principal and AP care about me
I like my school	Pearson Correlation	-0.145	1	.553**	.422**
	Sig. (2-tailed)	0.279	0	0	0.001
	N	58	58	58	58
I am treated fairly at my school	Pearson Correlation	-0.082	.553**	1	.283*
	Sig. (2-tailed)	0.54	0	0	0.031
	N	58	58	58	58
My Principal and AP care about me	Pearson Correlation	-0.233	.422**	.283*	1
	Sig. (2-tailed)	0.079	0.001	0.031	0
	N	58	58	58	58

Two items from the Parent Survey were also used to measure school culture: “my son has positive peer relationships” and “my son enjoys going to school.” Table 14 shows that there is not a significant correlation between EOG Data and the two items related to school culture: -Correlation between “My son has positive peer relationships” and the EOG: $r = -.069$, $p = .603$; -Correlation between “My son enjoys going to school” and the EOG: $r = .160$, $p = .223$.

Table 14

Correlations between EOG Score and Student Survey Items Related to School Peer Affiliations

School Culture for Peer Affiliations		My son has positive peer relationships	My son enjoys going to school
EOG Score Data	Pearson Correlation	-0.069	0.160
	Sig. (2-tailed)	0.603	0.223
	N	60	60

Lastly, several items related to school culture were examined from the Teacher Survey. Figure 18 shows 87.5% of teachers strongly agreed that they like their students: “I like my students” which indicates a healthy school climate.

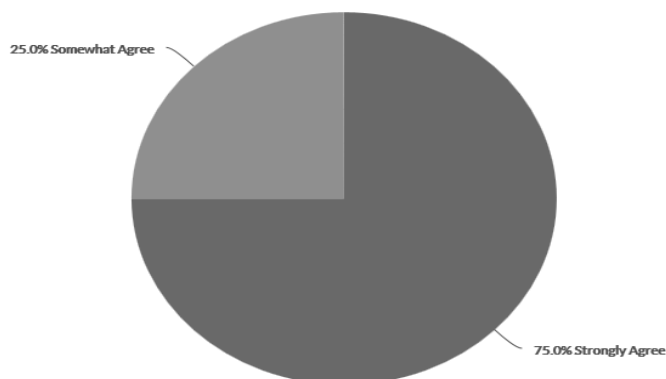


Figure 18. Pie chart of healthy school climate.

Figure 19 shows agreement with the statement: “I am culturally sensitive to the needs of my students.” Seventy-five percent of teachers strongly agree with the statement and 25% of teachers somewhat agree. These results indicate the existence of healthy school climate that is culturally sensitive to the students’ needs.

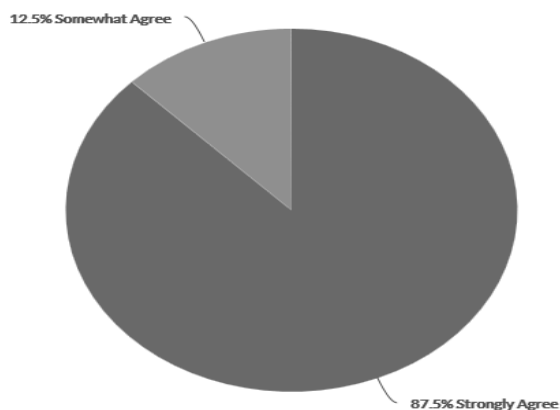


Figure 19. I am culturally sensitive to the needs of my students.

Figure 20 shows extent of agreement with the statement, “I contact parents when I have a concern;” 37.5% of teachers strongly agree that they contact parents when they have a concern and 62.5% of teachers somewhat agree that they contact parents when they have a concern. This means that the school climate at the examined school is one that emphasizes effective teacher-parent communications.

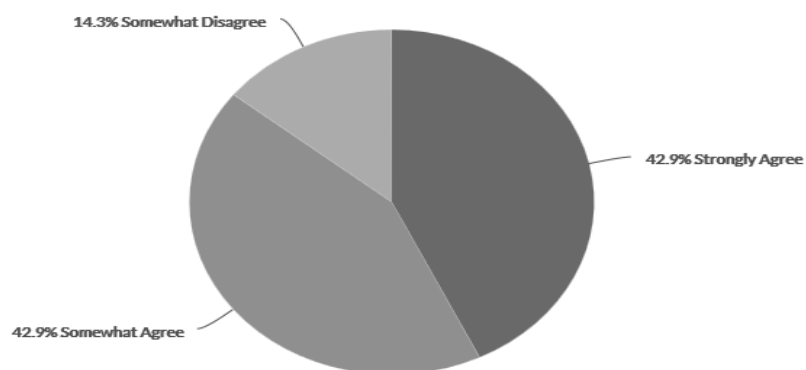


Figure 20. I contact parents when I have a concern.

The following figure shows the percentages for the question: “If 70% of my students fail a quiz, I blame myself.” The results show that 42.9% of teachers strongly agreed that they blame themselves if 70% of their students fail a quiz, 42.9% of teachers somewhat agreed, and 14.3% of teachers somewhat disagreed (see Figure 21). The high degree of agreement (86% “strongly agree” or “somewhat agree”) indicates that the culture at the examined school emphasizes teacher accountability for poor school performance.

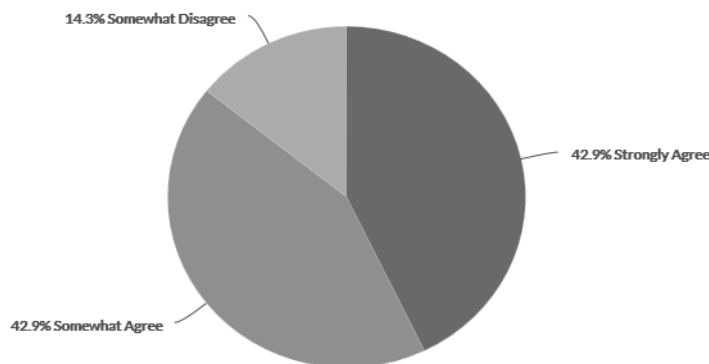


Figure 21. If 70% of my students fail a quiz, I blame myself.

Figure 22 shows agreement with the statement, “I have high expectations for all of my students” whereas 87.5% of the teachers strongly agreed that they have high expectations for their students, and 12.5% of teachers somewhat agreed. This means that the culture at the examined school is one where high expectations are set for all students.

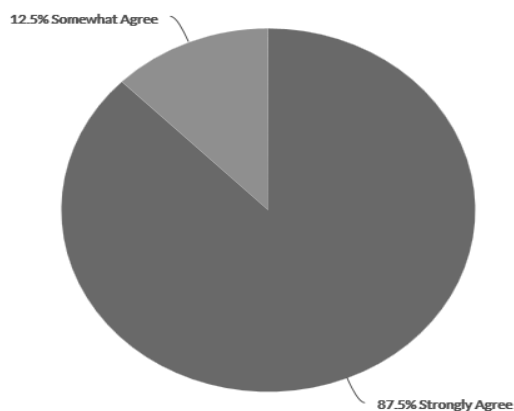


Figure 22. I have high expectations for all of my students.

RQ6: Which factor—instructional strategies, peer affiliation, discipline, academic motivation, or school culture—has the greatest impact on student achievement?

According to the Teacher Survey, school culture has the greatest impact on student achievement. One hundred percent of the teachers who took the survey felt that school culture was the most important factor on student achievement. This means that teachers know how important it is to create a classroom that is conducive to learning to the population of students they are teaching. This finding corroborates the responses the teachers to questions related to school culture (see Figure 23).

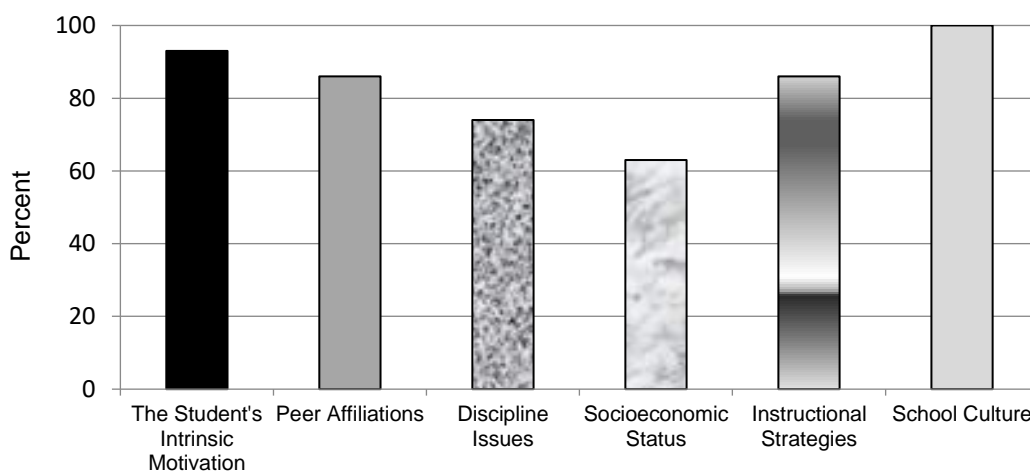


Figure 23. Greatest impact on student achievement.

Summary

Chapter V included an analysis of the data collected at a school in the metropolitan area of Atlanta and of those who participated in the research study. The school was a Title I middle school composed of mostly black and Hispanic students. Data was collected in several ways: a document review of a student survey, parent survey, and

teacher survey, as well as a review of student discipline and EOG math scores for students. The researcher used the school's database to retrieve information about EOG math scores and students' discipline history.

Through the Statistical Package for the Social Sciences (SPSS), Pearson Correlation Coefficients were created to show correlations of the student and parent data. Survey Gizmo was used to interpret teachers' perceptions. The most significant relationships identified were the teachers' perceptions on school culture; 100% of the teachers surveyed felt as though school culture had the biggest impact on student achievement.

CHAPTER VI

FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Findings and Conclusions

The purpose of this study was to examine relationships associated with the achievement of middle school African-American males in mathematics (EOG), including instructional strategies, peer affiliation, discipline, academic motivation, and school culture. A student survey was created to examine all of the independent variables on student achievement. A parent survey was created to examine the relationship between instructional strategies, peer affiliation, discipline, and academic motivation on student achievement. A teacher survey was created to examine instructional strategies, discipline, and academic motivation on student achievement.

Instructional Strategies

The data suggest that students do not do well in mathematics when their teacher does not know their learning style. This goes back to Maslow's Hierarchy of Needs (Martin & Loomas, 2017). The student's basic needs have not been met, so he/she cannot flourish in the classroom. Middle school African-American males need teachers who are in tune with their learning style, show that they care, and are willing to re-teach a skill if needed. According to the data, students were also more engaged when their teachers played fun games with them and knew their learning style. Based on the data,

parents did not feel there was a correlation between “My child’s math teacher is aware of his learning style” and the “EOG Test.” Based on the parent data, there was a moderate correlation between “My child’s math teacher is aware of his learning style” and “My son’s math teacher is highly qualified and knows the curriculum.” The data suggest teachers “strongly agreed” that “If my students do not understand a concept, I try teaching in a different way.”

Peer Affiliation

According to the data, there was no significant correlation between The Georgia Milestones Math (EOG) and peer affiliation. However, there was a significant correlation on the student survey between the questions, “Do your friends make good grades” and “My friends know that doing well in school is important.” The Attribution Theory lends itself to this data. Often, peers share the same attributes which explains the strong correlation. Based on the parent data, there was a moderate correlation between “My son is a leader of his peer group” and “My son has positive peer relations.”

Discipline

Based on the student data, there were no significant correlations on the EOG, but there was a significant negative correlation between the two independent variables, numbers of referrals and the question, “I have discipline on my record.” The parent data revealed there was a significant correlation between, “My son has discipline issues in math class” and “My son has discipline in all of his classes,” ($r = .761, p < .001$). The teacher survey indicated 87.5% of the teachers who were surveyed “strongly agree” that they have “excellent classroom management.”

Academic Motivation

Regarding student survey data, there was a moderate significant correlation between the statements, “I like my math teacher” and “I like math.” The researcher feels that the Self-Determination Theory plays a role in the success of students, even when they do not like their math teacher. The parent data suggest there were several significant moderate correlations between the statements “My son enjoys going to school” and “My son understands the importance of doing well in school.” Based on the teacher data, 50% of parents somewhat agree their students are intrinsically motivated, 23% somewhat disagree, and 23% of teachers strongly disagree that their students are intrinsically motivated.

School Culture

Based on the student data, there was a moderate significant relationship between the statements, “I like my school,” and “I am treated fairly at school” ($r = .553^{**}$, $p, .001$). Based on the parent data, two items from the parent survey were also used to measure school culture: “my son has positive peer relationships,” and “my son enjoys going to school.” There was a correlation between “My son has positive peer relationships” and the EOG ($r = -.069$, $p = .603$), and a correlation between “My son enjoys going to school” and the EOG ($r = .160$, $p = .223$).

Of all the factors, and based on teachers’ perceptions, school culture has the greatest impact on student achievement. The only data source for this question was the Teacher Survey. Of the teachers who took the survey, 100% felt that school culture was the most important factor on student achievement. This means that teachers know how

important it is to create a classroom that is conducive to learning based on the population of students they teach. This finding corroborates the responses given by teachers to questions related to school culture.

Implications

The intention of this study was to identify which factors had a significant relationship on student achievement: instructional strategies, peer affiliation, discipline, academic motivation, and school culture. The target group was middle school seventh and eighth grade males with a focus on mathematics.

Implications for School Leaders

According to the Teacher Survey, school culture has the greatest impact on student achievement. One hundred percent of the teachers who took the survey felt that school culture was the most important factor on student achievement. This implies that creating a school culture that is conducive to learning for the target population of students is paramount. Based on the theoretical framework, it is imperative for African-American male students to surround themselves with other positive African-American male students. This implies that African-American male students should utilize the concept of collaboration within the classroom.

Implications for Teachers

Research has shown that productive middle schools have teachers who implement instructional strategies that meet the needs of every student in their classroom (Southern Regional Education Board [SREB]), 2018). Through this research, several positive

significant relationships among the instructional strategies were worth noting. When students feel that their teacher does fun learning activities, they also identify the teacher as helping when they do not understand and knowing how they learn best. This implies that when teachers plan fun activities in class, students are more engaged and feel that their teachers know how they learn best. This also implies that teachers who plan fun activities in the class also help their students when they do not understand something.

There was a positive correlation for students between having friends who make good grades, know that doing well in school is important, and with whom they study. This data imply that students surrounding themselves with positive peer affiliations should be a conversation that parents and teachers have with students since there is a correlation to achievement.

Based on the data, students and parents identify significant relationships within the area of motivation. The data imply that teachers need to have a higher belief in their students' academic motivation which will impact student achievement. The data imply that a positive school culture is beneficial to students and student achievement.

Limitations of the Study

Several limitations were involved in this study. The study may not have addressed all factors that may have a relationship with school culture and student achievement with parent and students. Participants may not have fully disclosed all aspects of the survey, although the surveys were confidential and anonymous; there may have been some reservation as the researcher is a supervisor at the research site. The sample size was limited with only sixty students. The number of surveys

distributed was limited to only those who provided signed parent consent forms in order to participate. Although there were over 200 survey requests distributed during the initial dispersal, two additional dispersals were required. Another limitation was that the sample only included responses from students at one school. The student achievement scores were based on Georgia Milestones Math EOG.

Recommendations

Recommendations for District Leaders

- Work with Human Resources to develop hiring criteria for school leaders that focus on recruiting teachers with instructional strategies to include student collaboration and differentiation.
- Provide school leaders' professional development opportunities focused on developing skills to produce an engaging school culture for both students and faculty.

Recommendations for School Leaders

- Recruit teachers with experience in developing instructional strategies that include best practices in student collaboration and differentiation.
- Provide continuous professional development opportunities on utilizing differentiation and collaboration as instructional strategies.
- Develop an onsite parent program that focuses on helping parents and children identify the benefits of positive peer group interactions.

- Communicate with parents in Newsletters, parent conferences, or PTA meetings, their role in building positive relationships with their child's teachers and peers.

Recommendations for Classroom Teachers

- Teachers should intentionally use instructional strategies that include collaboration and differentiation.
- Teachers should foster a learning community that encourages positive peer groups.
- Teachers should create a learning environment that fosters a positive classroom culture focused on student engagement.
- Teachers should recognize student success by increasing student motivation through incentives and positive feedback.

Recommendations for Future Researchers

- Consider replicating the research study across two or more urban school settings.
- Consider including additional age groups (K-12) in the study.
- Consider incorporating a qualitative component to the research, where additional interviews may be conducted to gather more data on teacher feedback.

Summary

The purpose of this study was to examine relationships associated with the achievement of middle school African-American males in mathematics. The factors were instructional strategies, peer affiliation, discipline, academic motivation, and school culture. The researcher's goal was to research five factors that may or may not contribute significantly to academic achievement and student success on the Georgia Milestones Mathematics EOG among African-American male seventh and eighth graders. Through Pearson Correlation Coefficients, the researcher was able to conclude that based on teachers' perceptions, school culture has the highest impact on student achievement. There was a correlation between a student liking math and his teacher but nothing significant on the EOG. This researcher has provided recommendations for educational district leaders, educational leaders, classroom teachers, and future research.

APPENDIX A

Student Survey

What grade are you in?

- ☐ 7
- ☐ 8

My math teacher knows how I learn best

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My math teacher does fun activities with my class

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My math teacher helps me when I don't understand something

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My math teacher does small group activities

- ☐ Yes
- ☐ No

My math teacher gives my class a lot of worksheets

- ☐ Yes
- ☐ No

My friends like school

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My friends know that doing well in school is important

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

Do your friends make good grades

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I study with my friends

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My friends always get in trouble with my math teacher

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I have a discipline referral on my school record

- ☐ Yes
- ☐ No

If you do have a discipline referral how many do you have

- ☐ 1
- ☐ 2 - 4
- ☐ 5 - 7
- ☐ 8 - 10
- ☐ I do not have any referrals

Are you smart

- ☐ Yes
- ☐ No

Do you like math?

- ☐ Yes
- ☐ No

What grade do you normally earn in math?

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ F

I like my math teacher this year

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

When I like my math teacher I do not get into trouble

- ☐ True
- ☐ False

I do well in school because I want to go to college

- ☐ True
- ☐ False

I don't care how I do in school

- ☐ True
- ☐ False

I like my school

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I am treated fairly at my school

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

My Principal and AP care about me

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

APPENDIX B

Parent Survey

Dear Parent(s):

Hello! I appreciate you completing my confidential 24 question survey; it will take approximately 8 - 10 minutes to complete. You can either complete the survey on this paper (using a pen or pencil) or use this link <http://www.surveymoz.com/s3/3771978/Dissertation-Parents> and complete the survey online. Your child's teacher will not see your responses.

If you complete the paper survey (included in this packet), please have your child return it to the 6th Grade Academy (Mrs. Hill's Office). Thank you in advance for completing this survey by Friday, January 12.

Research Topic: An Examination of Factors Associated with the Achievement of Middle School African-American males in Mathematics

Thank you,

Syllen K. Hill

Syllen K. Hill, Assistant Principal at Sweetwater Middle School

678-380-7229

syllen_hill@gwinnett.k12.ga.us

1. My son is in the ____ grade.

- ☐ 7th
- ☐ 8th

2. My son's student ID# is _____

3. My child's math teacher is aware of his learning style

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

4. My son's math teacher is highly qualified and knows the curriculum

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

5. I know my son's friends

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

6. My son has positive peer relationships

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

7. My son is a leader in his peer group

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

8. My son has discipline issues in math class

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

9. My son has discipline issues in all of his classes

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

10. My son only has discipline issues when he does not like his teacher

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

11. My son is motivated to work hard in his math class

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

12. My son performs better academically with a math teacher he likes

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

13. My son understands the importance of doing well in school

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

14. I am a single parent

- ☐ Yes
- ☐ No

15. I graduated from high school

- ☐ Yes
- ☐ No

16. I graduated from college (2 or 4 year program)

- ☐ Yes
- ☐ No

17. My son's math teacher is culturally sensitive

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

18. My son's math teacher communicates with parents often

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

19. My son's math teacher is enthusiastic

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

20. My son's math teacher has clear expectations for my child's behavior

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

21. My son's math teacher has clear expectations for his learning

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

22. My son enjoys going to school

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

23. My son's math teacher has high expectations for his learning

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

24. My son likes his math teacher

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

APPENDIX C

Teacher Survey

Teachers:

Thank you for taking the time to complete this confidential survey. I am completing my Dissertation on The Impact of Instructional Strategies and Other Variables on Middle School African-American male Student Achievement in Mathematics. Your input will assist me in the research process.

Thank you,

Mrs. Hill

What grade level do you teach?

- ☐ 7th
- ☐ 8th

I have been teaching math for...

- ☐ 1 year
- ☐ 2 - 5 years
- ☐ 6 - 10 years
- ☐ 11 - 18 years
- ☐ 19 - 25 years
- ☐ 26 plus years

I understand the curriculum I am teaching

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I consider myself a creative math teacher

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I pay attention to my students' various learning styles

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

If my students do not understand a concept, I try teaching it a different way

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I regularly do learning stations (small groups) in my classroom

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I have excellent classroom management

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

Discipline issues occur in my class when students don't understand the concept I am teaching

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

The majority of my students are intrinsically motivated

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I enjoy teaching math

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I like my students

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I am culturally sensitive to the needs of my students

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I contact parents when I have a concern

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

If 70% of my students fail a quiz, I blame myself

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

I have high expectations for all of my students

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

When I make personal connections with my students they are more successful in my class

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ No Opinion
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

What are some factors that affect student achievement (check all that apply)

- ☐ The student's intrinsic motivation
- ☐ Peer affiliations
- ☐ Discipline issues
- ☐ Socio-Economic status
- ☐ Instructional Strategies
- ☐ School Culture

APPENDIX D

Parent Permission Letter

Dear Parent/Guardian:

I am a doctoral candidate in Clark Atlanta University's department of Educational Leadership, and an assistant principal at Sweetwater Middle School. My study is reviewing the impact of student achievement and several variables on middle school African-American male students in mathematics. One portion of my research will focus on reviewing the academic and discipline records of seventh and eighth students. I will use the Georgia Milestones Assessment as the academic measure. Your child meets this criterion, and I am writing to request your permission to review your child's academic and discipline records. No names will be revealed during the data collection process. The data from this research project will not be linked to your student. You will be contacted in writing to complete a short survey (written or electronic) about your child, but you will not be required to speak to anyone directly or identify yourself. I am asking for your permission to proceed with this step in my study by signing below to indicate your consent.

If you have questions, please do not hesitate to contact me at Sweetwater Middle School. Thank you in advance for taking the time to help me with my study.

Sincerely,

Syllen K. Hill

Syllen Hill

678-380-7229

syllen_hill@gwinnett.k12.ga.us

APPENDIX E

Teachers' Letter of Informed Consent

Dear Teacher:

I am a graduate student at Clark Atlanta University conducting research to investigate Factors Associated with the achievement of middle school African-American males in Mathematics. This study may further the understanding of factors that affect student achievement. I believe that this information will help educational leaders throughout the district.

Information obtained in this study will not be shared with other teachers, administrators, parents, or district leaders. There are no known risk factors with your participation in this investigation.

Your participation is voluntary in this study, your perspective and accounts are valued.

If you have any questions or concerns, please feel free to call me at 678-380-7229. If you prefer to email me, you can reach me at syllen_hill@gwinnett.k12.ga.us.

Thank you for your participation.

Syllen K. Hill

Syllen Hill
Clark Atlanta
University Doctoral Candidate

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